CRPL-68

IONOSPHERIC DATA

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CENTRAL RADIO PROPAGATION LABORATORY
WASHINGTON, D. C.

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CONTENTS

SYMBOLS AND TERMINOLOGY; CONVENTIONS FOR DETERMINING MEDIAN VALUES

Beginning with data reported for January 1949, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Fifth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Stockholm, 1948, and given in detail on pages 2 to 10 of the report CRPL-F53, "Ionospheric Data," issued January 1949.

For symbols and terminology used with data prior to January 1949, see report IRPL-C61, "Report of International Radio Propagation Conference, Washington, 17 April to 5 May, 1944," previous issues of the F series, in particular, IRPL-F5, CRPL-F24, F33, F50, and report CRPL-7-1, "Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records."

Following the recommendations of the Washington (1944) and Stockholm (1948) conferences, beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

In addition to the conventions for the determination of medians given in Appendix 5 of Document No. 293 E of the Stockholm conference, which are listed on pages 9 and 10 of CRPL-F53, the following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given on pages 2-9 of CRPL-F53 (Appendixes 1-4 of Document No. 293 E referred to above).

a. For all ionospheric characteristics:

Values missing because of A, B, C, F, L, M, N, Q, R, S, or T (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count. See CRPL-F38, page 9.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

Values missing because of W are counted:

1. For foF2, as equal to or less than the median when it is apparent that h'F2 is unusually high; otherwise, values missing because of W are omitted from the median count.
2. For h'F2, as equal to or greater than the median.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of G (no Es reflections observed, the equipment functioning normally otherwise) are counted as equal to or less than the median foE, or equal to or less than the lower frequency count of the recorder.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 35 and figures 1 to 70 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

French Ministry of Naval Armaments (Section for Scientific Research):
Dakar, French West Africa
Fribourg, Germany

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
Lindau/Harz, Germany

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

Electrical Communications Laboratory, Ministry of Communications:
Fukaura, Japan
Tokyo, Japan
Wakkanai, Japan
Yamagawa, Japan

New Zealand Department of Scientific and Industrial Research:
Christchurch, New Zealand (Canterbury University College Observatory)
Rarotonga I.

Norwegian Defense Research Establishment, Kjeller per Lillestrom, Norway:
Oslo, Norway

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa

United States Army Signal Corps:
Okinawa I.

National Bureau of Standards (Central Radio Propagation Laboratory):
Baton Rouge, Louisiana (Louisiana State University)
Boston, Massachusetts (Harvard University)
Guam I.
Huancayo, Peru (Instituto Geofisico de Huancayo)
Maui, Hawaii
San Francisco, California (Stanford University)
San Juan, Puerto Rico (University of Puerto Rico)
Trinidad, British West Indies
Washington, D. C.
White Sands, New Mexico

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when foF2 is less than or equal to foF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot No.					
	1950	1949	1948	1947	1946	1945
December		108	114	126	85	38
November		112	115	124	83	36
October		114	116	119	81	23
September		115	117	121	79	22
August		111	123	122	77	20
July		108	125	116	73	
June		108	129	112	67	
May		108	130	109	67	
April		109	133	107	62	
March	103	111	133	105	51	
February	103	113	133	90	46	
January	105	112	130	88	42	

IONOSPHERIC DATA FOR EVERY DAY AND HOUR AT WASHINGTON, D. C.

The data given in tables 36 to 47 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols and Terminology; Conventions for Determining Median Values." Beginning with September 1949, the data are taken at a new location, Ft. Belvoir, Virginia.

IONOSPHERE DISTURBANCES

Table 48 presents ionosphere character figures for Washington, D. C., during March 1950, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

Table 49 lists for the stations whose locations are given the sudden ionosphere disturbances observed on the continuous field intensity recordings made at Ft. Belvoir, Virginia, during March 1950.

Table 50 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England, receiving stations of Cable and Wireless, Ltd., for February 14, 15, 20, 21, 22, and 23, 1950.

Table 51 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Colombo, Ceylon, receiving station of Cable and Wireless, Ltd., for January 20, 1950.

Table 52 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Platanos, Argentina, receiving station of the International Telephone and Telegraph Corporation for February 13, 18, and 20, 1950.

Table 53 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Point Reyes, California, receiving station of RCA Communications, Inc., for March 8, 1950.

Table 54 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the New York City, New York, receiving station of Mackay Radio and Telegraph Company, Inc., for February 13 and 20, 1950.

Table 55 lists for the stations whose locations are given the sudden ionosphere disturbances reported by the Institut für Ionosphärenforschung, as observed at Lindau, Harz, Germany, for various days in February 1950.

Table 56 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Barbados, British West Indies, receiving station of Cable and Wireless, Ltd., from February 2 to 22, 1950.

Table 57 gives provisional radio propagation quality figures for the North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, January 1950, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day Cheltenham, Maryland, geomagnetic K-figures.

The radio propagation quality figures are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner basically the same as that described in IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued February 1, 1946. The scale conversions for each report are revised for use with the data beginning January 1948, and statistical weighting replaces what was, in effect, subjective weighting. Separate master distribution curves of the type described in IRPL-R31 were derived for the part of 1946 covered by each report; data received only since 1946 are compared with the master curve for the period of the available data. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. Each report is given a statistical weight which is the reciprocal of the departure from linearity. The half-daily radio propagation quality figure, beginning January 1948, is the weighted mean of the reports received for that period.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the cause, conditions may be reported as disturbed because of seasonal characteristics such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic, or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half day in either of the two general areas.

AMERICAN AND ZÜRICH PROVISIONAL RELATIVE SUNSPOT NUMBERS

Table 58 presents the daily American relative sunspot number, R_A, computed from observations communicated to CRPL by observers in America and abroad. Beginning with the observations for January 1948, a new method of reduction of observations is employed such that each observer is assigned a scale-determining "observatory coefficient," ultimately referred to Zürich observations in a standard period, December 1944 to September 1945, and a statistical weight, the reciprocal of the variance of the observatory coefficient. The daily numbers listed in the table are the weighted means of <u>all</u> observations received for each day. Details of the procedure are given in the Publication of the Astronomical Society of the Pacific, issued February 1949, in an article entitled "Reduction

of Sunspot-Number Observations." The American relative sunspot number computed in this way is designated R_A. It is noted that a number of observatories abroad, including the Zürich observatory, are included in R_A. The scale of R_A was referred specifically to that of the Zürich relative sunspot numbers in the standard comparison period; since that time, R_A is influenced by the Zürich observations only in that Zürich proves to be a consistent observer and receives a high statistical weight. In addition, this table lists the daily provisional Zürich sunspot numbers, R_Z.

OBSERVATIONS OF THE SOLAR CORONA

Tables 59 through 61 give the observations of the solar corona during March 1950 obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 62 through 64 list the coronal observations obtained at Sacramento Peak, New Mexico, during February 1950, derived by the High Altitude Observatory from spectrograms taken by Harvard University as a part of its performance of an Air Materiel Command research and development contract administered by the Air Force Cambridge Research Laboratories. The data are listed separately for east and west limbs at 5-degree intervals of position angle north and south of the Solar Equator at the limb. The time of observation is given to the nearest tenth of a day, GCT.

Table 59 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 60 gives similarly the intensities of the first red (6374A) coronal line; and table 61, the intensities of the second red (6704A) coronal line; all observed at Climax in March 1950.

Table 62 gives the intensities of the green (5303A) coronal line; table 63, the intensities of the first red (6374A) coronal line; and table 64, the intensities of the second red (6704A) coronal line; all observed at Sacramento Peak in February 1950.

The following symbols are used in tables 59 through 64: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

PRELIMINARY MEAN K-INDICES, PRELIMINARY INTERNATIONAL CHARACTER FIGURES, MAGNETICALLY SELECTED DAYS, PLANETARY INDICES

Table 65 gives preliminary mean K-indices, Kw, and international character figures, C, Kp, and also final magnetically selected days from magnetic observatories widely distributed over the Earth's surface. The selected days are preferentially derived using the four magnetic criteria: C-figures, sums of the eight daily mean K-indices, the greatest daily K-index, and the sums of the squares of the eight daily K-indices.

Kp is designed to measure solar particle-radiation by its magnetic effects at eleven observatories between geomagnetic latitudes 47 and 63 degrees. Complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948" published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics. This bulletin has tables of Kp for 1945-48. Current tables of Kp appear in the Journal of Geophysical Research.

These tables have been furnished by the courtesy of the Committee on Characteristics of Magnetic Disturbance, ATME, IUGG. The majority of the world's magnetic observatories have cooperated in supplying the data. The Meteorological Office, De Bilt, Holland, has efficiently assembled and compiled the summary tables. The Chairman of the Committee has compiled Kp to supply the need of research workers in the ionospheric field for a specific index of solar particle-activity. Tables of Kp will ultimately be available from January 1, 1937, the beginning date for serious ionospheric records.

ERRATUM

CRPL-F67, p. 59, fig. 63: At 1000 and from 1400 through 1900, the foF2 curve should be labeled > 9.0 instead of < 9.0.

TABLES OF IONOSPHERIC DATA

Table 1

Washington, D. C. (38.7°N, 77.1°W) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.7						2.7
01	290	(5.4)						(2.7)
02	290	(5.2)						2.7
03	290	4.8						2.7
04	280	4.2						2.7
05	290	4.0						2.7
06	280	4.0						2.9
07	250	6.1	---	---	120	2.1		3.2
08	240	7.9	220	---	100	2.7		3.1
09	230	8.7	220	---	100	3.1		3.0
10	270	9.4	210	---	100	3.3		3.0
11	280	10.1	210	[illegible].0	100	3.5		2.9
12	280	10.5	210	4.9	(100)	3.6		2.9
13	280	10.6	220	5.0	100	3.5		2.8
14	290	10.5	220	[illegible].9	100	3.4		2.8
15	270	10.5	220	---	100	[illegible].2		2.8
16	230	10.2	240	---	100	3.0		2.9
17	250	9.9	---	---	110	2.5		2.9
18	240	(9.5)			---	1.7		(3.0)
19	230	(8.6)						(2.9)
20	240	(7.6)						(2.8)
21	260	(7.0)						(2.8)
22	270	6.2						2.8
23	280	5.9						2.7

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 2

Oslo, Norway (60.0°N, 11.0°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.1					2.7	(2.8)
01	295	2.8					2.9	(2.8)
02	305	2.5					2.8	(2.8)
03	310	2.2					2.9	2.8
04	310	2.3					[illegible]	2.8
05	300	2.5					[illegible].7	2.8
06	275	2.6					2.8	(2.8)
07	250	3.2			---	---	2.[illegible]	(2.8)
08	230	5.2			125	1.9	3.3	(3.2)
09	230	7.4	---	---	115	2.3	3.4	3.2
10	230	8.3	235	---	110	2.6	3.5	3.2
11	230	9.1	230	---	115	2.7	3.4	3.2
12	230	9.4	230	---	115	2.8	3.3	3.2
13	230	9.2	230	---	115	2.8	3.4	3.2
14	235	9.5	230	---	115	2.7	3.4	3.2
15	225	9.4	---	---	115	2.4	3.4	3.2
16	220	8.6			120	2.0	3.3	3.2
17	220	7.6			---	(1.6)	2.8	3.2
18	220	7.2					2.5	3.2
19	225	5.8					2.4	3.1
20	240	4.2						(3.0)
21	265	4.1					2.1	(2.9)
22	260	3.8						(2.8)
23	275	3.3					2.4	(2.8)

Time: 15.0°E.
Sweep: 1.6 Mc to 10.0 Mc in 5 minutes, automatic operation; experimental recorder, 1.3 Mc to 14.0 Mc in 8 minutes.

Table 3

Boston, Massachusetts (42.4°N, 71.2°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	4.5						2.6
01	270	4.6						2.7
02	280	4.4						2.6
03	270	4.4						2.7
04	280	4.3						2.7
05	250	3.9						2.7
06	250	3.9						2.8
07	250	6.0			---	---		3.0
08	240	8.1			---	---		3.1
09	240	9.9			---	---		3.0
10	240	9.9			---	--		(3.0)
11	250	10.4			---	---		3.0
12	250	10.3			---	---		(2.9)
13	250	10.3			---	---		(3.0)
14	250	10.3			---	---		(2.9)
15	250	10.0			---	---		3.0
16	235	10.0			---	---		3.0
17	230	9.7			---	---		3.0
18	220	7.9						(2.9)
19	230	6.6						2.8
20	240	5.9						2.9
21	240	5.8						2.8
22	255	5.3						2.7
23	260	4.9						2.7

Time: 75.0°W.
Sweep: 0.8 Mc to 14.0 Mc in 1 minute.

Table 4

San Francisco, California (37.4°N, 122.2°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.4					2.6	2.8
01	280	3.5					2.8	2.7
02	300	3.3					2.8	2.7
03	280	3.4					2.6	2.8
04	290	3.4					2.2	2.7
05	280	3.3					2.7	2.6
06	300	3.3						2.7
07	250	5.5			---	1.8		3.0
08	230	8.2			120	2.4		3.4
09	240	9.4	240	---	120	2.9		3.3
10	250	10.2	220	---	120	(3.2)		3.2
11	260	10.7	220	4.8	120	(3.7)		3.1
12	260	11.5	220	---	120	(3.8)		3.1
13	260	11.4	230	---	120	3.8		3.0
14	260	11.3	240	---	120	---		3.0
15	240	11.0	240	---	120	---		3.1
16	240	10.6	---	---	120	2.8		3.1
17	240	10.3			120	2.3		3.2
18	220	8.8			---	---	2.4	3.2
19	220	6.9					2.4	3.1
20	230	5.6						3.1
21	240	4.2						3.1
22	280	3.3						2.8
23	300	3.5					2.2	2.8

Time: 120.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 4 minutes.

Table 5

White Sands, New Mexico (32.3°N, 106.5°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.9						2.8
01	280	3.9						2.8
02	270	4.0					2.3	2.8
03	260	4.0					2.2	2.8
04	260	4.0						2.9
05	270	3.6						2.8
06	280	3.8						2.7
07	240	6.2			---	---		3.2
08	230	8.6			120	2.6		3.3
09	230	9.8	---	---	110	3.0		3.2
10	220	10.4	220	---	110	3.3	3.8	3.1
11	260	11.4	220	---	110	3.6		3.0
12	260	11.4	220	---	110	3.6	3.8	3.0
13	260	11.4	220	---	110	3.7	4.0	2.9
14	240	11.4	220	---	110	3.6	4.2	2.9
15	240	11.2	---	---	110	3.4	4.2	2.9
16	240	10.8			110	2.8	3.8	3.0
17	230	10.4			120	2.3	3.2	3.1
18	220	9.4					2.6	3.2
19	220	7.2					2.4	3.1
20	220	5.9					2.5	3.1
21	230	4.5					2.4	3.0
22	260	4.0						2.8
23	280	4.0						2.8

Time: 105.0°W.
Sweep: 0.8 Mc to 14.0 Mc in 2 minutes.

Table 6

Baton Rouge, Louisiana (30.5°N, 91.2°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.1						2.8
01	300	4.3						2.9
02	300	4.2						2.9
03	290	4.3						2.9
04	290	4.2						3.0
05	290	4.0						3.0
06	300	4.0						2.8
07	260	6.5						3.1
08	250	8.6	240	---	---	---		3.2
09	270	9.6	250	---	120	3.0		3.1
10	(280)	10.4	240	---	120	3.1		3.0
11	290	11.0	240	---	120	3.4		2.9
12	290	11.4	240	---	120	---		2.9
13	290	11.5	240	---	120	3.5		2.9
14	290	11.4	250	---	120	3.5		2.9
15	280	11.2	260	---	120	3.3		2.9
16	(270)	11.0	250	---	120	3.0		3.0
17	240	10.6	---	---	130	2.5		3.0
18	230	9.5						3.1
19	230	7.5						3.0
20	260	5.7						3.0
21	270	5.0						3.0
22	290	4.4						2.9
23	300	4.2						2.8

Time: 90.0°W.
Sweep: 2.12 Mc to 14.1 Mc in 5 minutes, automatic operation.

Table 7

Okinawa I. (26.3°N, 127.7°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	7.1						3.0
01	250	6.5						3.0
02	240	6.0						3.1
03	230	5.8						3.1
04	200	4.7						3.2
05	260	2.9						3.0
06	290	2.8						2.9
07	260	5.5		4.5		---		3.0
08	240	9.0		7.5		2.7		3.1
09	250	11.5		---		---		3.0
10	260	13.0		---		---		(3.0)
11	270	(15.3)		---		---		(3.0)
12	270	(15.0)		---		---		(3.0)
13	280	(15.5)		---		---		(3.0)
14	280	(15.0)		---		---		(3.0)
15	270	(15.2)		---		---		(3.0)
16	260	(15.0)		---		---		(3.0)
17	250	(15.5)		---		---	2.2	(3.0)
18	230	(15.0)		15.0		---	1.8	(3.0)
19	200	(13.5)					2.3	(3.1)
20	210	9.8						3.0
21	220	10.5						3.0
22	210	(9.8)						(3.0)
23	220	9.0						3.0

Time: 135.0°E.
Sweep: 1.0 Mc to 24.0 Mc in 1 minute.

Table 8

Maui, Hawaii (20.8°N, 156.5°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	5.8						2.7
01	280	6.3						2.8
02	260	4.7						3.0
03	250	4.3						3.3
04	260	2.8						2.9
05	300	2.4						2.6
06	340	2.4			---	---		2.5
07	300	5.1			180	1.9		2.8
08	270	8.4			130	2.7		3.0
09	280	10.0	250	---	120	3.1		2.9
10	300	11.4	240	---	120	3.5		2.9
11	320	12.7	240	(4.9)	120	3.6		2.8
12	320	13.2	230	(5.2)	120	3.7		2.7
13	340	14.0	240	5.5	120	3.7		2.7
14	340	14.8	250	(5.6)	120	3.6	4.1	2.7
15	320	14.8	250	5.4	120	3.4	3.9	2.8
16	300	14.5	260	---	120	3.1	3.8	2.8
17	270	14.2	260	---	120	2.8	3.7	2.9
18	250	12.8			150	2.2	4.4	3.0
19	240	11.3					3.7	3.0
20	240	10.0					2.8	2.9
21	260	7.5					2.6	2.7
22	260	6.9						2.9
23	260	6.5						2.7

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 9

San Juan, Puerto Rico (18.4°N, 66.1°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	(6.0)						2.7
01	260	6.2						2.9
02	250	5.4						3.0
03	240	4.9						3.0
04	---	4.4						2.9
05	---	4.0						2.9
06	---	3.8						2.9
07	260	6.5		---				3.0
08	240	8.7		3.5		E		3.1
09	260	10.0		---		3.3		3.1
10	280	11.1		---		3.5		3.0
11	280	11.2		5.0		---		2.9
12	290	11.2		5.2		---		2.9
13	300	11.4		---		---		2.8
14	290	11.7		5.2		3.8		2.8
15	290	11.5		---		3.6		2.9
16	280	11.1		---		3.4		2.8
17	270	11.2				---		2.9
18	250	11.2						2.9
19	240	9.3						3.0
20	240	7.2						2.9
21	280	6.0						2.8
22	290	5.6						2.8
23	280	(5.6)						2.7

Time: 60.0°W.
Sweep: 2.9 Mc to 13.0 Mc in 9 minutes, automatic operation; supplemented by manual operation.

Table 10

Guam I. (13.6°N, 144.9°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	10.1					4.1	3.0
01	230	10.0					4.0	3.1
02	230	9.3						3.3
03	210	6.4						3.2
04	230	5.2					1.5	3.0
05	240	4.6					2.8	3.2
06	240	3.9					3.2	3.1
07	260	6.2			150	1.8	4.8	3.1
08	240	8.8			110	2.8	4.6	3.0
09	250	10.6	220	---	100	3.2	5.0	2.8
10	280	11.4	210	4.7	100	3.6	4.8	2.6
11	280	11.8	200	4.8	110	3.7	4.8	2.5
12	280	11.0	200	4.8	100	3.8	4.8	2.4
13	280	11.0	200	4.8	100	3.8	4.6	2.4
14	280	11.4	200	4.8	100	3.7	5.0	2.4
15	280	11.8	200	---	110	3.5	4.9	2.4
16	240	12.4	220	---	110	3.2	5.0	2.5
17	250	12.7			110	2.8	4.8	2.6
18	260	12.6			---	---	5.0	2.7
19	290	12.4					3.2	2.6
20	310	(11.6)						(2.5)
21	280	(11.4)						2.6
22	260	(10.7)					2.4	(2.8)
23	250	10.1					4.4	3.0

Time: 150.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 11

Huancayo, Peru (12.0°S, 75.3°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	10.0					5.1	2.9
01	230	8.5					3.4	3.0
02	240	6.9					4.7	3.0
03	230	6.1					5.2	3.1
04	240	5.7					3.6	3.1
05	230	5.0					3.2	3.1
06	270	5.8				1.8	3.2	3.0
07	240	9.3				2.7		3.0
08	240	11.3	220	---		3.2	7.6	2.9
09	290	12.3	220	5.2		3.6	11.9	2.7
10	300	12.6	210	5.4		3.8	12.4	2.4
11	300	12.4	210	5.3		---	12.6	2.3
12	300	11.6	200	5.3		---	12.8	2.2
13	300	11.6	200	5.3		---	12.8	2.2
14	300	11.2	200	5.1		---	12.8	2.2
15	290	11.4	200	5.0		---	12.6	2.3
16	220	11.3	---	---		3.2	12.0	2.3
17	240	11.6				2.8	9.4	2.3
18	270	11.1				2.0	4.2	2.2
19	320	10.8						2.2
20	360	10.7						2.2
21	330	10.4					2.8	2.4
22	280	10.1					2.9	2.6
23	260	(10.8)					3.7	2.9

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 12

De Bilt, Holland (52.1°N, 5.2°E) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	315	3.3					2.5	2.5
01	320	3.2					2.3	2.5
02	320	3.0					2.2	2.5
03	315	2.7					2.4	2.5
04	310	2.6					2.4	2.6
05	300	2.5					2.3	2.6
06	300	2.5					2.2	2.7
07	270	3.7			---	---	2.3	2.7
08	220	6.8			180	1.9	2.9	3.1
09	220	8.7	---	---	115	2.2	2.9	3.1
10	225	9.9	220	3.4	115	2.5	2.7	3.2
11	225	10.4	248	3.6	115	2.6	2.8	3.1
12	225	10.1	225	3.5	110	2.7	3.0	3.1
13	232	10.4	230	3.6	110	2.6	2.7	3.0
14	230	10.3	---	---	120	2.4	2.8	3.1
15	220	9.2	---	---	130	2.0	2.8	3.1
16	220	8.5			200	1.8	2.6	3.0
17	220	6.8			---	---	2.3	3.0
18	225	5.7			---	---	2.0	3.0
19	250	4.5			---	---		2.8
20	280	3.7						2.7
21	300	3.4					2.0	2.6
22	310	3.4					1.8	2.5
23	310	3.3					2.2	2.4

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 7 minutes, automatic operation.

Table 13

Lindau/Harz, Germany (51.6°N, 10.1°E) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.2					1.8	
01	300	3.2					1.7	
02	300	3.2					2.0	
03	300	3.0						
04	290	2.6						
05	290	2.6						
06	260	2.6						
07	270	2.6					2.0	
08	220	5.0			---	E	2.6	
09	210	7.8			100	2.0	3.5	
10	210	9.0			100	2.4	3.7	
11	215	9.8			100	2.6	3.6	
12	215	10.0			100	2.7	3.6	
13	210	10.1			100	2.7	3.6	
14	220	10.3			100	2.6	3.7	
15	215	9.7			105	2.3	3.9	
16	210	8.8			110	1.8	3.4	
17	205	7.8			---	E	2.8	
18	205	6.2					2.6	
19	210	5.2					2.2	
20	230	4.0					1.9	
21	270	3.6					2.0	
22	290	3.4					1.9	
23	300	3.1						

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 8 minutes.

Table 14

Trinidad, Brit. West Indies (10.6°N, 61.2°W) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	6.4						3.2
01	240	5.4						3.4
02	230	4.6						3.2
03	230	4.1						3.2
04	260	3.6						3.0
05	260	3.9						3.0
06	250	4.4						3.0
07	240	8.0			100	2.2	2.8	3.4
08	230	10.4	240	---	110	2.9	3.6	3.4
09	240	12.6	230	4.8	100	3.4	4.1	3.4
10	250	12.0	210	5.0	100	3.7	4.4	3.3
11	250	11.4	200	5.2	100	3.9	4.5	3.2
12	250	11.6	200	5.2	100	4.0	4.7	3.0
13	270	12.0	200	5.3	100	3.9	4.8	3.0
14	280	12.1	220	5.3	100	3.8	4.8	3.0
15	270	11.8	220	5.1	110	3.6	4.6	2.9
16	260	11.8	220	4.8	100	3.3	4.2	3.0
17	240	11.6	220	---	110	2.6	4.0	3.0
18	220	10.8			---	---	3.0	3.1
19	220	9.8					3.0	3.2
20	220	8.0					2.7	3.0
21	250	6.8					2.4	2.8
22	260	7.0						2.9
23	240	6.6						3.0

Time: 60.0°W.
Sweep: 1.5 Mc to 18.0 Mc, manual operation.

Table 15

Johannesburg, Union of S.Africa (26.2°S, 28.0°E) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.1					2.9	2.8
01	260	5.8					2.3	2.8
02	260	5.4					2.2	2.8
03	260	4.9					2.1	2.8
04	260	4.2					2.0	2.8
05	280	4.1						2.8
06	250	5.8	---	---	120	2.2		3.0
07	(280)	7.5	240	---	110	2.8	3.2	2.9
08	320	8.7	220	5.0	110	3.3	3.9	2.8
09	320	9.6	220	5.2	110	(3.8)	4.8	2.7
10	340	9.9	200	5.4	110	(3.8)	4.2	2.7
11	350	10.4	200	5.5	110	3.9	4.6	2.7
12	350	10.5	200	5.5	110	(4.1)	4.3	2.8
13	360	10.6	210	6.5	110	(4.1)	4.4	2.8
14	350	10.6	210	5.4	110	(4.0)	4.2	2.7
15	330	10.2	210	5.3	110	(3.8)	4.1	2.7
16	320	10.0	210	5.0	110	3.6	4.0	2.8
17	300	9.3	230	4.6	110	3.1	3.7	2.8
18	270	8.8	250	---	110	2.6	3.3	2.8
19	260	8.6			---	---	3.6	2.9
20	250	8.3					2.2	2.9
21	250	7.6					2.1	2.8
22	260	6.8					2.1	2.8
23	280	6.4					1.5	2.8

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 16

Capetown, Union of S.Africa (34.2°S, 18.3°E) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(290)	5.1					2.6	2.7
01	(280)	5.0					2.2	2.7
02	(280)	5.0					3.0	2.7
03	(280)	5.0					2.6	2.8
04	(270)	4.6					2.2	2.8
05	(280)	4.1					2.1	2.7
06	270	5.0			---	(1.8)	2.1	2.9
07	(280)	6.7	250	---	120	2.6	3.0	2.9
08	320	8.0	240	4.8	110	(3.1)	2.8	2.7
09	340	9.1	230	6.2	110	(3.5)	4.1	2.6
10	350	9.3	220	5.4	110	(3.8)	4.6	2.7
11	360	9.6	220	5.4	110	---	5.0	2.6
12	370	10.0	220	5.6	110	---	4.4	2.7
13	360	10.2	220	5.5	110	---	4.1	2.6
14	350	10.1	210	6.5	110	---	4.1	2.7
15	350	9.8	210	5.4	110	---	4.1	2.7
16	350	9.5	220	5.3	110	(3.7)	3.9	2.7
17	320	9.0	230	5.0	110	(3.4)	3.7	2.8
18	300	8.6	240	---	110	3.0	3.4	2.8
19	270	8.1	250	---	120	2.4	3.0	2.9
20	250	7.7			---	1.7	2.6	2.9
21	(240)	7.0					2.2	2.9
22	(250)	6.2					2.1	2.9
23	(270)	5.5					2.5	2.8

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 17

De Bilt, Holland (52.1°N, 5.2°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	3.0					2.3	2.4
01	330	2.8					2.4	(2.4)
02	320	2.9					2.3	(2.4)
03	300	2.9					2.4	2.5
04	295	3.1					2.6	2.6
05	280	2.8					2.4	2.7
06	280	2.6					2.3	2.7
07	240	4.1			---	---	2.5	2.7
08	220	7.8			165	1.9	2.8	3.1
09	220	10.2			120	2.2	2.6	3.1
10	220	11.5	---	---	120	2.5	2.6	3.1
11	220	12.2	---	---	120	2.7	2.8	3.0
12	225	12.4	---	---	120	2.6	2.6	3.0
13	220	12.1	---	---	120	2.5	2.5	3.0
14	220	11.5			120	2.2	2.6	3.0
15	215	10.5			130	2.0	2.4	3.1
16	210	9.0			---	---		3.0
17	210	6.7			---	---	1.9	3.0
18	220	5.2						2.9
19	235	4.3						2.8
20	275	3.6					2.2	2.8
21	290	3.2					2.2	2.6
22	310	3.1						2.5
23	315	3.2					2.2	2.4

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 7 minutes, automatic operation.

Table 18

Christchurch, New Zealand (43.5°S, 172.7°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	8.3					3.3	2.6
01	290	7.7					3.0	2.6
02	290	6.9					3.8	2.5
03	290	6.6					2.9	2.5
04	300	6.4				1.2	2.8	2.6
05	270	7.1	---	---		1.8	3.2	2.8
06	280	7.8	250	4.4		2.7	4.4	2.8
07	320	8.8	250	4.9		3.2	4.3	2.8
08	320	9.0	240	5.3		3.5	4.7	2.8
09	330	9.4	220	5.4		3.6	5.0	2.7
10	360	9.6	230	5.7		3.8	4.9	2.6
11	370	9.5	230	5.8		3.8	5.2	2.7
12	370	9.3	230	5.9		3.8	4.8	2.6
13	380	9.2	230	5.8		3.8	4.2	2.6
14	380	9.1	230	5.9		3.7	4.2	2.6
15	370	9.0	240	5.5		3.5	4.3	2.6
16	360	8.9	240	5.3		3.5	3.7	2.6
17	(330)	8.7	250	4.8		3.1	3.5	2.7
18	---	8.4	260	---		2.6	3.6	2.7
19	280	8.6	---	---		1.7	3.4	2.8
20	300	9.0				---	3.9	2.6
21	290	9.3					3.9	2.5
22	290	9.4					3.4	2.5
23	280	9.1					2.9	2.6

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Table 19

Wakkanai, Japan (45.4°N, 141.7°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.5					2.1	2.6
01	310	4.2					2.2	2.5
02	300	4.4					2.3	2.5
03	300	4.3					2.0	2.6
04	300	4.3					2.0	2.6
05	280	4.2					2.0	2.7
06	260	4.5	---	---	---	E	1.6	2.8
07	220	8.2	230	---	100	1.9	2.3	3.0
08	220	11.4	250	---	100	2.5	2.7	3.2
09	210	(12.6)	220	---	100	2.8	3.6	(3.2)
10	230	(13.1)	220	---	100	3.2	3.4	(3.2)
11	220	(13.6)	220	---	100	3.2	3.3	(3.1)
12	220	(12.9)	210	---	100	3.2	3.2	(3.2)
13	230	(12.8)	220	---	100	3.1		(3.0)
14	210	(12.2)	---	---	100	2.9		(3.1)
15	210	12.0	---	---	100	2.5		3.1
16	220	10.5	210	---	100	1.8	2.3	(3.1)
17	210	(8.1)	220	---	100	1.3	2.1	(3.0)
18	220	7.6					2.2	3.0
19	230	6.5					2.2	3.0
20	240	5.3						3.0
21	270	4.5					1.6	2.8
22	300	4.7					2.0	2.7
23	290	4.5						2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 14.0 Mc in 15 minutes, manual operation.

Table 20

Fukaura, Japan (40.6°N, 139.9°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	4.5						2.7
01	320	4.6						2.6
02	340	4.6						2.7
03	320	4.6						2.7
04	310	4.5						2.7
05	300	4.5						2.8
06	270	5.2						2.9
07	220	8.9	---	---	---	E		3.2
08	220	10.5	---	---	---	E		3.3
09	220	11.6	---	---	---	---	3.4	3.3
10	220	(12.4)	---	---	---	---	3.8	(3.2)
11	230	(12.1)	---	---	---	---	4.2	(3.1)
12	220	(11.6)	---	---	---	---	(3.6)	(3.1)
13	220	11.8	---	---	---	---	(3.4)	3.1
14	220	12.0	---	---	---	---		(3.1)
15	220	11.4	---	---	---	E		3.2
16	220	11.0	---	---	---	E		3.1
17	220	9.3	---	---				3.1
18	240	7.8						3.0
19	240	7.0						3.1
20	260	5.7						3.1
21	280	4.6						2.9
22	300	4.7						2.7
23	300	4.6						2.7

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 21

Tokyo, Japan (35.7°N, 139.5°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	4.4					2.6	2.7
01	280	4.2					2.4	2.7
02	280	4.2					3.0	2.8
03	280	4.2					2.6	2.7
04	260	4.0					2.9	2.8
05	280	4.0					2.5	2.8
06	230	5.3			---	1.1	3.0	3.1
07	220	9.5	---	---	110	2.2	3.0	3.4
08	220	11.2	---	---	100	2.8	3.4	3.4
09	220	13.1	220	---	100	3.2	3.9	3.2
10	220	13.8	230	---	100	3.4	4.1	3.2
11	220	13.3	220	---	100	3.5	3.8	3.1
12	230	13.4	220	---	100	3.5	3.9	3.0
13	240	14.0	230	---	100	3.4	4.0	3.0
14	230	13.4	220	---	100	3.2	3.8	3.0
15	230	12.5	230	---	100	3.0	3.4	3.1
16	220	11.8	---	---	100	2.3	3.4	3.2
17	210	10.3			---	(1.4)	3.0	3.2
18	220	8.1					2.7	3.1
19	230	7.2					3.0	3.1
20	230	6.1					2.0	3.1
21	230	5.1					2.0	3.0
22	250	4.8					2.0	2.8
23	270	4.5					1.8	2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 22

Yamagawa, Japan (31.2°N, 130.6°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	5.4						2.8
01	290	5.0						2.8
02	280	4.8						2.8
03	270	4.8						2.9
04	260	4.2						3.0
05	280	3.5						2.7
06	290	3.8			---	E		2.8
07	260	7.6	---	---	150	1.9	2.4	3.1
08	240	10.2	---	---	110	2.6	2.8	3.3
09	250	12.0	230	---	110	3.0	3.8	3.1
10	250	13.4	230	---	110	3.3	4.2	3.1
11	260	13.2	240	---	110	3.6	4.6	3.0
12	270	13.4	230	---	110	3.6	4.3	2.9
13	280	13.8	230	---	110	3.6	4.4	2.8
14	270	13.8	240	---	110	3.4	4.4	2.9
15	260	13.6	240	---	110	3.2	4.2	2.9
16	250	13.1	240	---	110	2.8	3.5	2.9
17	240	12.9	240	---	---	2.2	3.2	3.0
18	230	11.0	---	---	---	---	3.0	3.0
19	230	9.5					2.6	2.9
20	240	8.7					2.4	3.0
21	230	8.0						3.0
22	250	6.8						2.9
23	270	5.7						2.8

Time: 135.0°E.
Sweep: 1.2 Mc to 18.5 Mc in 15 minutes, manual operation.

Table 23

Rarotonga I. (21.3°S, 159.8°W) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	10.0					3.0	2.9
01	290	9.7					2.6	2.8
02	300	9.5						2.8
03	290	8.6						2.8
04	300	8.0						2.8
05	300	7.8					2.5	2.8
06	260	9.2	---	---	120	2.3	3.3	3.0
07	260	11.4	250	---	110	3.1	3.9	3.0
08	290	11.8	240	6.1	110	3.6	4.5	2.9
09	300	12.0	250	6.6	110	3.8	4.4	2.8
10	320	12.5	280	7.8	110	4.0	4.4	2.7
11	350	13.2	290	7.5	110	4.0		2.6
12	360	14.4	310	8.0	110	---		2.7
13	350	14.5	320	7.6	110	4.0		2.7
14	350	14.6	310	6.9	110	---		2.7
15	350	14.4	260	7.0	110	3.9		2.8
16	340	13.0	250	6.6	110	3.4	4.4	2.8
17	310	12.0	250	5.6	110	3.1	4.3	2.8
18	290	11.5	---	---	---	2.3	4.1	2.7
19	300	11.6					4.2	2.7
20	330	10.8					4.1	2.6
21	340	10.1					4.4	2.7
22	320	10.2					3.7	2.7
23	300	10.0					3.3	2.7

Time: 157.5°W.
Sweep: 2.0 Mc to 16.0 Mc, manual operation.

Table 24

Christchurch, New Zealand (43.5°S, 172.7°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	7.8					2.9	2.4
01	300	7.3					3.1	2.5
02	300	6.8					2.9	2.4
03	300	6.2					2.8	2.4
04	310	6.0				---	2.9	2.5
05	280	6.2	---	---		1.6	3.2	2.7
06	260	6.7	260	4.2		2.6	3.0	2.8
07	410	7.4	250	4.9		3.2	4.4	2.7
08	360	8.0	240	5.3		3.5	4.2	2.7
09	370	8.8	240	5.5		3.6	3.8	2.7
10	390	9.2	240	5.9		3.7	3.6	2.6
11	380	9.6	230	5.8		3.8	4.4	2.6
12	400	9.5	240	6.0		3.8	4.4	2.6
13	380	9.5	240	6.0		3.7	3.8	2.6
14	420	9.4	240	5.8		3.7		2.6
15	390	9.4	240	5.6		3.5	3.5	2.6
16	380	9.3	250	5.4		3.3		2.6
17	(390)	9.2	260	4.7		3.0	3.0	2.6
18	270	9.2	---	---		2.4	3.3	2.6
19	280	9.2				1.4	2.8	2.6
20	300	9.2					3.4	2.5
21	300	8.9					3.0	2.5
22	300	8.6					2.9	2.5
23	300	8.2					2.8	2.4

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Wakkanai, Japan (45.4°N, 141.7°E) Table 25 October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	330	5.0					2.5	2.5
01	320	4.8					1.9	2.5
02	310	4.7					2.0	2.5
03	310	4.8					2.2	2.5
04	300	4.6					2.2	2.5
05	300	4.7	---	---	---	E	2.0	2.6
06	280	6.5	260	---	100	1.5	1.8	2.9
07	250	9.8	---	---	100	2.3	2.6	3.0
08	230	11.5	---	---	100	2.8	3.1	3.1
09	220	12.0	---	---	100	3.1	3.6	3.0
10	240	12.6	---	---	100	3.4	4.1	3.0
11	260	13.0	220	---	100	3.4	3.6	2.9
12	240	12.7	---	---	100	3.4	3.6	2.9
13	250	12.0	---	---	100	3.3	3.7	2.9
14	260	12.1	---	---	100	2.8	3.8	(3.0)
15	250	11.8	---	---	100	2.7	3.0	3.0
16	240	11.0	---	---	100	2.5	2.6	(3.0)
17	230	9.6	---	---	100	2.2	2.6	2.9
18	230	8.6	---	---	---	---	2.8	(2.9)
19	250	7.2					3.0	2.9
20	270	6.6					2.4	2.8
21	280	6.3					2.0	2.7
22	300	5.5					2.4	2.6
23	300	5.0					2.8	2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Fukaura, Japan (40.6°N, 139.9°E) Table 26 October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.6					2.0	2.6
01	300	5.6					2.2	2.6
02	300	5.2					2.0	2.7
03	300	5.1					1.6	2.6
04	290	4.9					1.9	2.7
05	280	5.2						2.7
06	250	7.2	---	---	120	1.9	2.4	3.1
07	230	10.0	---	---	110	2.4	3.2	3.2
08	220	10.7	220	---	110	2.9	3.3	3.3
09	230	11.0	---	---	110	---	3.8	3.1
10	240	(11.3)	---	---	110	---	5.0	(3.1)
11	250	(11.9)	---	---	110	---	5.0	(3.1)
12	250	(11.6)	---	---	110	---	(5.2)	(3.0)
13	250	(12.0)	---	---	110	---	4.9	(2.9)
14	250	12.2	---	---	110	---	3.9	3.0
15	250	11.8	---	---	110	2.8	3.4	3.0
16	240	11.2	---	---	110	2.3	3.4	3.1
17	230	10.2	---	---	---	2.1	3.3	3.1
18	240	9.2	---	---	---	---	3.0	3.1
19	240	7.4					3.0	3.0
20	260	6.8					2.8	2.9
21	270	6.0					2.5	2.8
22	290	5.7					2.6	2.8
23	300	5.5					2.2	2.7

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Tokyo, Japan (35.7°N, 139.5°E) Table 27 October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.7					2.8	2.6
01	280	5.6					2.8	2.8
02	270	5.3					2.8	2.8
03	260	5.3					2.5	2.8
04	240	4.7					2.2	2.8
05	260	4.6	---	---	---	E	2.0	2.8
06	220	7.3	---	---	100	1.8	2.8	3.3
07	210	10.6	---	---	100	2.5	3.2	3.4
08	210	12.0	220	---	100	3.0	3.7	3.3
09	210	12.5	220	---	100	3.3	4.0	3.1
10	220	13.6	200	---	100	3.4	4.2	3.1
11	220	13.7	210	---	100	3.4	4.3	3.1
12	230	13.5	210	---	100	3.7	4.5	3.0
13	240	13.6	210	---	100	3.5	4.2	3.0
14	230	13.2	220	---	100	3.4	4.1	3.0
15	230	12.8	220	---	100	3.0	3.8	3.0
16	220	12.1	---	---	100	2.8	3.9	3.2
17	210	11.1	---	---	100	---	3.6	3.3
18	210	9.1	---	---	---	---	3.1	3.2
19	220	7.8					3.0	3.1
20	230	7.1					3.0	3.0
21	240	6.7					3.3	3.0
22	250	6.0					3.0	2.9
23	270	5.8					3.0	2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Yamagawa, Japan (31.2°N, 130.6°E) Table 28 October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.6					2.2	2.7
01	290	6.6					1.7	2.7
02	270	6.2						2.9
03	280	5.6						2.9
04	280	5.2						2.8
05	290	4.8						2.7
06	290	4.9	---	---	---	E	2.2	2.8
07	240	8.7	---	---	110	2.2	2.4	3.2
08	240	11.2	230	---	110	2.8	3.4	3.2
09	240	11.8	230	---	110	3.3	4.0	3.0
10	260	13.5	220	---	110	3.4	4.2	3.0
11	260	14.0	230	---	110	3.6	4.4	3.0
12	270	14.3	230	---	110	3.6	4.4	2.9
13	280	14.4	230	---	110	3.6	4.2	2.9
14	280	14.4	240	---	110	3.4	4.2	2.9
15	270	14.3	240	---	120	3.3	4.2	2.9
16	260	13.8	250	---	110	3.0	3.7	2.9
17	250	13.6	230	---	110	2.5	3.8	3.0
18	240	12.2	230	---	---	---	3.8	3.1
19	230	10.8					3.8	3.0
20	250	9.4					3.0	2.9
21	260	9.2					3.4	2.9
22	250	8.3					3.2	2.9
23	270	7.6					2.8	2.8

Time: 135.0°E.
Sweep: 1.2 Mc to 18.5 Mc in 15 minutes, manual operation.

Rarotonga I. (21.3°S, 159.8°W) Table 29 October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	11.9					2.1	2.7
01	270	11.1					2.1	2.8
02	270	9.7						2.8
03	280	10.6						2.8
04	300	8.9						2.7
05	300	9.2						2.8
06	270	10.4			---	---	2.8	3.0
07	250	12.7	---	---	110	2.9	3.7	3.0
08	250	13.0	240	---	110	3.3	4.0	2.9
09	250	13.4	240	6.5	110	3.5	4.4	2.9
10	300	14.0	240	7.8	110	3.8	4.4	2.8
11	340	14.1	240	7.3	110	3.9	4.4	2.7
12	330	14.2	240	7.4	110	3.9	4.5	2.8
13	340	13.2	250	7.2	110	3.9		2.8
14	350	14.7	250	7.0	110	3.8	4.5	2.7
15	350	14.2	250	6.7	110	3.6	4.2	2.7
16	330	14.0	250	6.4	110	3.3	4.0	2.7
17	300	13.7	250	---	110	2.8	4.2	2.7
18	290	12.8	260	---	---	E	4.2	2.8
19	290	13.0					4.0	2.8
20	300	13.2					3.1	2.8
21	290	12.3					2.9	2.7
22	290	12.2					2.5	2.8
23	290	11.5						2.8

Time: 157.5°W.
Sweep: 2.0 Mc to 16.0 Mc, manual operation.

Fribourg, Germany (48.1°N, 7.8°E Table 30 September 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.0					2.0	2.7
01	300	5.9					2.1	2.7
02	300	5.7					2.0	2.7
03	310	5.4						2.7
04	310	5.1					1.8	2.7
05	270	4.8					2.2	2.8
06	250	6.0	---	---	---	E	2.2	3.2
07	240	7.0	240	---	115	2.5	3.2	3.2
08	250	7.8	230	---	110	2.9	3.7	3.1
09	265	8.8	230	(4.8)	110	3.2	4.2	3.1
10	305	10.0	220	5.2	110	(3.4)	4.3	3.1
11	280	10.6	225	5.3	110	3.4	4.4	3.0
12	280	10.4	225	5.4	110	3.5	4.4	2.9
13	300	10.0	220	5.4	110	3.6	4.3	2.9
14	300	9.9	230	5.2	110	3.5	4.2	3.0
15	260	10.0	235	---	110	(3.2)	3.8	2.9
16	245	9.9	240	---	110	3.0	3.2	3.0
17	245	10.3	250	---	115	2.5	3.4	3.0
18	250	10.2	---	---	130	1.7	3.1	3.0
19	240	(8.8)					3.0	3.1
20	240	8.1					2.5	3.1
21	240	7.2					2.2	2.9
22	250	6.2					2.2	2.8
23	290	6.1					2.2	2.7

Time: Local.
Sweep: 1.6 Mc to 17.6 Mc in 10 minutes, automatic operation.

Table 31

Dakar, French West Africa (14.6°N, 17.4°W) — September 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	---						
01	270	---						
02	250	(8.6)						
03	250	7.6						
04	250	6.8						
05	250	5.5						
06	260	7.4			165	---	3.1	
07	250	9.8	---	---	125	2.8		
08	250	10.4	240	---	120	3.3		
09	290	12.6	235	---	120	3.8		
10	325	13.6	235	---	115	---		
11	345	(14.0)	---	---	120	---		
12	365	(14.8)	---	---	115	---		
13	400	(15.6)	---	---	120	---		
14	370	16.4	230	---	115	4.0		
15	370	16.4	250	---	110	3.7		
16	345	16.4	250	---	115	3.2	3.7	
17	270	(16.0)	275	---	120	2.6	4.0	
18	290	(14.6)	---	---			3.9	
19	375	(14.0)					3.1	
20	380	13.8						
21	360	(10.0)						
22	370	(> 9.8)						
23	330	---						

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 32

Fribourg, Germany (48.1°N, 7.8°E) — August 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.0					3.1	2.8
01	290	5.8					2.5	2.7
02	295	5.3					2.6	2.7
03	280	5.2					2.5	2.8
04	280	4.8	---	---			2.6	2.8
05	260	5.2	---	---	---	E	2.9	3.0
06	250	6.1	250	3.8	120	2.2	3.7	3.1
07	270	6.4	230	(4.1)	110	2.8	4.2	3.1
08	300	7.1	230	4.6	110	3.1	4.8	3.0
09	300	7.4	225	4.9	110	(3.5)	4.7	3.1
10	310	7.5	220	5.2	110	3.6	5.3	3.0
11	320	7.9	215	5.3	110	3.7	4.5	2.9
12	340	7.9	220	5.1	110	3.7	5.1	2.9
13	350	7.9	225	5.1	110	3.8	4.6	2.9
14	325	8.2	230	5.1	110	3.7	4.5	2.9
15	325	7.9	225	4.9	110	(3.5)	4.2	2.9
16	315	8.0	230	4.5	110	3.3	4.4	2.9
17	290	8.1	240	4.2	110	2.9	4.0	3.0
18	270	8.3	250	---	120	2.4	4.1	3.0
19	255	8.6			---	---	3.9	3.1
20	240	8.0					3.7	3.0
21	250	7.4					3.6	2.9
22	260	6.4					3.2	2.8
23	295	6.2					3.2	2.7

Time: Local.
Sweep: 1.6 Mc to 17.6 Mc in 10 minutes, automatic operation.

Table 33

Dakar, French West Africa (14.6°N, 17.4°W) — August 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	340	(6.1)					3.6	
01	310	5.9					3.3	
02	300	6.0					3.2	
03	270	5.5					3.7	
04	280	5.0					2.3	
05	260	4.3						
06	250	6.2			160	---	3.8	
07	240	8.0	---	---	115	2.9	4.0	
08	255	8.6	230	---	115	3.4	4.0	
09	326	9.6	225	---	115	3.8		
10	370	10.8	215	5.4	120	3.8		
11	380	11.7	220	5.4	110	4.0		
12	400	(>12.6)	210	5.4	115	4.1		
13	410	(>13.6)	215	5.5	115	4.1		
14	380	(>14.0)	220	5.5	115	4.0		
15	370	(>14.0)	240	5.2	120	3.6		
16	340	(>14.0)	240	5.0	120	3.3		
17	300	(>14.0)	250	---	120	2.8	3.8	
18	280	(12.2)	255	---	150	2.1	3.6	
19	330	11.0						
20	410	10.4						
21	405	8.6						
22	390	7.9					3.0	
23	380	6.6					3.3	

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 34

Fribourg, Germany (48.1°N, 7.8°E) — July 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	275	7.2					3.0	2.7
01	280	6.9					2.7	2.8
02	275	6.4					2.5	2.8
03	280	6.2					2.8	2.8
04	280	6.0			---	---	3.1	2.8
05	280	6.6	250	(3.5)	125	1.8	3.6	2.9
06	280	7.3	240	4.2	110	2.5	4.0	3.0
07	300	7.4	230	4.6	110	3.0	4.4	3.0
08	305	7.6	230	4.8	105	3.3	4.7	(2.9)
09	330	7.6	210	5.1	105	3.5	5.1	2.9
10	320	8.0	215	5.3	105	3.6	4.5	2.9
11	330	7.9	210	5.4	105	3.7	5.6	2.8
12	340	8.0	215	5.3	105	3.8	5.7	2.9
13	345	7.8	220	5.4	105	3.8	5.5	2.9
14	345	7.6	210	5.3	105	3.8	4.5	2.8
15	350	7.4	215	5.1	105	3.6	4.5	2.9
16	330	7.5	225	5.0	110	3.4	4.4	2.8
17	315	7.5	235	4.6	105	3.0	4.4	2.9
18	290	7.7	240	4.2	110	2.6	4.1	3.0
19	275	8.7	250	3.5	120	2.1	3.7	(2.9)
20	260	(>8.0)					3.9	3.0
21	260	7.8					3.4	2.9
22	270	7.6					3.4	2.8
23	280	7.4					3.2	2.8

Time: Local.
Sweep: 1.6 Mc to 17.6 Mc in 10 minutes, automatic operation.

Table 35

Dakar, French West Africa (14.6°N, 17.4°W) — July 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	370	(4.9)						
01	340	(5.4)						
02	320	(6.5)						
03	320	(6.2)					3.9	
04	300	(5.5)					3.2	
05	280	4.8					3.8	
06	250	6.4					4.5	
07	240	7.7	---	---	120	---	4.6	
08	250	8.1	220	---	120	(3.3)	6.0	
09	330	(>9.0)	230	---	120	3.6	4.4	
10	(320)	10.0	225	---	110	---	4.8	
11	380	11.2	220	5.6	120	4.2		
12	400	12.0	220	6.5	110	---	4.3	
13	420	11.9	215	5.6	120	4.0	4.3	
14	400	12.4	220	5.4	115	4.0	4.2	
15	370	13.4	230	(5.2)	120	3.6		
16	355	13.4	230	---	120	3.3	4.3	
17	320	12.6	236	---	120	3.0	4.1	
18	275	(11.4)	280	---	120	---	4.4	
19	300	(11.0)					4.0	
20	380	(9.0)					3.8	
21	410	7.4						
22	420	6.6					3.0	
23	400	(5.1)					3.9	

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

TABLE 36

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), March (Month), 1950

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat 38.7°N, Long. 77.1°W

75°W Mean Time

Scaled by: B.E.B., J.S.

Calculated by: By H. – J.S.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	280	270	270	260	280	(300)^{S}	[270]^{S}	240	230	210	200^{H}	210^{H}	220	200^{H}	M	M	230	220	210	210	220	260	250	270
2	(270)^{S}	280	280	270	270	(260)^{S}	(300)^{S}	250	230	210	250	200^{H}	270	230	220^{H}	200^{H}	220	220	210	220	250	250	260	260
3	250	270	290	290	280	260	250	220	230	210	200^{H}	260	220	270	260	250	220	230	220	220	(230)^{S}	(230)^{S}	(250)^{S}	(240)^{S}
4	(250)^{S}	(250)^{S}	(250)^{S}	(260)^{S}	250	250	(240)^{S}	230	220	220	240	250	270	260	240^{H}	250	230^{H}	230	210	220	220	250	(250)^{S}	(260)^{S}
5	(260)^{S}	(260)^{S}	270	240	230	(270)^{S}	(270)^{S}	240	220	240	250	230	270	280	280	260	250	240	230	220	240	(250)^{S}	(240)^{S}	250
6	(250)^{S}	290	(280)^{S}	270	250	(260)^{S}	(250)^{S}	250	240	230	270	280	280	270	290	270	230	240	240	240	260	240	270	250
7	(260)^{S}	280	300	300	(340)$^{F}_{K}$	(330)$^{F}_{K}$	(290)$^{F}_{K}$	260^{K}	250^{K}	320^{K}	340^{K}	330^{K}	310^{K}	290^{K}	280^{K}	290^{K}	230^{K}	C	C	C	260	C	C	C
8	C	C	C	C	C	C	C	C	C	220^{H}	260	300	280	280	270	210^{H}	220	230	230	210	230	260	280	280
9	280	280	270	250	260	290	290	230	220	240	220	210	200^{H}	280	270	230	220	230	220	220	220	250	270	270
10	280	280	280	290	270	240	230	230	230	230	220	220^{H}	270	270	270	260	230^{H}	240	230	220	250	260	270	270
11	280	[270]^{C}	270	270	260	260	240	230	230	230	270	250	220	(250)^{B}	230	230	230^{H}	240	240	230	230	250	270	280
12	290	270	290	250	230	270	270	240	230	230^{H}	220	270	240^{H}	230^{H}	290	240	230^{H}	240	240	230	230	270	270	260
13	270	280	280	260	250	250	240	220	240	200^{H}	200^{H}	300	290	290	230^{H}	290	240^{H}	250	230	(220)^{S}	240	240	250	270
14	C	C	C	C	C	C	C	C	C	270	C	C	230^{H}	220	290	230^{H}	230	250	230	230	240	250	C	C
15	C	C	C	C	C	C	C	C	C	270*	310	300	300	290	310	300	230	270	240	250	260	(250)^{S}	(270)^{S}	300
16	(300)^{S}	(310)^{S}	300	300	310	300	270	230	230	290	280	290	220^{H}	300	(230)^{S}	230	230	250	240	230	270	270	270	270
17	280	290	300	300	300	300	280	250	250	220^{H}	280	270	220^{H}	[220]^{T}	230^{H}	280	230	250	250	230	230	260	270	270
18	290	300	300	300	310	300	290	250	280	290	270^{H}	280	280	290	270	290	290	250	230	220	260	270	290	290
19	290	C^{K}	C^{K}	350^{K}	450^{K}	[460]$^{C}_{K}$	470^{K}	330^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	G^{K}	400^{K}	300^{K}	300^{K}	300^{K}	300^{K}	290^{K}	290^{K}
20	(300)$^{S}_{K}$	C^{K}	C^{K}	C^{K}	C^{K}	300^{K}	290	250	240	[280]^{T}	310	300	310	320	320	300	290	250	240	250	(270)^{S}	270	290	290
21	300	310	C	C	C	C	300	260	250	280	300	290	300	240^{H}	300	230	[250]^{B}	270	260	230	240	270	290	300
22	(300)^{S}	(380)^{S}	(370)^{S}	300	270	(290)^{S}	290	260	250	230	230^{H}	270	270	280	[290]^{M}	280	260	250	230	220	230	230	250	(280)^{S}
23	(270)^{S}	(260)^{S}	280	290	270	(290)^{S}	280	250	230^{H}	M	M	M	M	280	270	210^{H}	240	250	240	(230)^{S}	(250)^{S}	300	310	(320)^{S}
24	(330)^{S}	(300)^{S}	300	340	(370)^{S}	(330)^{S}	300	270^{K}	250^{K}	230$^{H}_{K}$	410^{K}	400^{K}	410^{K}	420^{K}	410^{K}	390^{K}	350^{K}	300^{K}	280^{K}	270^{K}	(260)$^{S}_{K}$	290^{K}	300^{K}	(300)$^{S}_{K}$
25	300^{K}	[350]$^{S}_{K}$	(400)$^{S}_{K}$	(370)$^{S}_{K}$	(370)$^{S}_{K}$	(360)$^{S}_{K}$	310^{K}	270^{K}	310^{K}	340^{K}	380^{K}	340^{K}	300^{K}	320^{K}	320^{K}	300^{K}	300^{K}	270$^{H}_{K}$	250^{K}	230^{K}	(250)$^{S}_{K}$	270^{K}	(280)$^{S}_{K}$	290^{K}
26	(300)^{S}	300	300	280	(270)^{S}	300	(280)^{S}	240	270	210	270	360	290	300	290	290	290	260^{H}	250	230	240	270	300	(300)^{S}
27	(300)^{S}	(330)^{S}	(300)^{S}	290	250	300	300	270	310	300	310^{H}	310	340	340	320	310	290	260	230	220	240	(260)^{S}	280	290
28	□(300)	□(300)	□(300)	□(300)	□(280)	□(300)	□(240)	□(250)	□(220)^{H}	280	290	270^{H}	300	[300]^{C}	290	290	330	250	230	230	230	260	290	300
29	300	300	290	280	280	290	280	250	230^{H}	210^{H}	280	280	290	280	[300]^{M}	300	230	250	250	230	250	250	280	290
30	(290)^{S}	300	300	300	300	280	290	260	300	310	320	330	320	310	300	220^{H}	230	230^{H}	250	(230)^{S}	230	(270)^{S}	270	300
31	300	300	300	290	350	320	290	270	270	240^{H}	320	200^{H}	330	360	310	300	300	240^{H}	270	290	290	290	280	(260)^{S}
Median	290	290	290	290	280	290	280	250	240	230	270	280	280	280	290	270	230	250	240	230	240	260	270	280
Count	28	26	25	26	26	27	28	28	27	29	28	28	29	30	29	29	31	30	30	30	31	30	29	29

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

TABLE 37

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), March (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

75°W Mean Time

Calculated by: By. H. – J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.7	(5.5)^{S}	5.2	4.9	(4.1)$^{S}_{J}$	(3.9)^{S}	3.4^{F}	5.4	7.2	(8.8)^{S}	(9.2)$^{S}_{J}$	9.9	10.5	(10.6)^{J}	M	M	10.7	9.7	(9.0)$^{S}_{J}$	(7.6)$^{S}_{J}$	(6.8)^{S}	(6.0)$^{S}_{J}$	5.3	5.2
2	4.8	4.9	4.8	(4.5)^{S}	(4.0)^{S}	3.6	(3.9)^{S}	(5.9)^{S}	8.2	(8.7)^{S}	10.0	9.8^{Z}	10.9	10.9	10.9	10.7	9.9	9.3	8.8	(7.6)^{S}	6.3	(6.0)^{S}	5.6	(5.5)^{S}
3	4.8	(4.2)$^{S}_{J}$	(3.9)$^{S}_{J}$	3.9	(4.0)^{S}	3.8	3.7	6.0	(8.1)^{S}	8.7	9.2	10.6	11.0	10.8	11.2	11.1	10.4	10.0	9.6	8.1	6.8	(6.1)^{S}	(6.0)^{S}	(5.9)^{S}
4	5.3	4.8	4.4	4.2	(4.0)^{S}	3.5	(3.3)^{S}	5.8	7.5	8.4	9.5	(10.6)$^{S}_{F}$	11.4	11.4	10.5	10.5	10.0	10.0	9.4	8.3	7.3	6.4	5.8	5.6
5	5.1	4.9	4.7	4.8	(4.1)^{S}	3.5	3.5	6.3	8.0	8.6	(9.2)^{P}	9.3	10.3	10.4	10.4	10.0	9.8	(9.5)$^{S}_{J}$	(8.9)^{S}	8.1	7.5	7.2	6.6	5.8
6	5.6	5.7	5.6	5.4	4.8	4.4	(4.0)^{S}	5.8	7.3	8.4	9.4	10.4	10.5	10.6	10.5	10.6	10.3	9.7	9.2	8.3	8.5	7.5	7.0	6.7
7	6.1	5.8	5.6^{F}	(4.4)$^{S}_{F}$	3.9$^{K}_{F}$	(4.2)$^{K}_{F}$	(3.9)$^{J}_{F}$	4.9$^{F}_{K}$	5.8^{K}	6.5^{K}	7.0^{K}	7.8^{K}	8.4^{K}	8.8^{K}	9.0^{K}	9.0^{K}	9.7^{K}	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	8.9	9.6	10.2	11.5	11.7	(11.8)^{S}	(11.5)^{S}	11.0	(10.4)$^{S}_{J}$	(10.3)^{S}	(8.8)^{S}	(7.7)$^{S}_{J}$	(7.1)$^{S}_{J}$	(6.5)^{S}	6.5
9	6.4	(6.1)^{S}	(6.0)^{S}	4.9^{F}	4.3	(4.0)$^{S}_{J}$	4.0	6.2	(8.1)^{S}	9.7	10.4	10.7	11.1	11.6	(11.7)^{S}	11.8	11.2	10.6	10.0	(8.9)^{S}	(7.7)^{S}	6.6	6.8	6.4
10	6.3	(6.0)$^{J}_{F}$	5.5	5.2^{F}	5.3^{F}	4.7^{F}	3.9^{F}	6.6	8.5	9.5	(9.7)^{J}	11.1	11.3	(12.0)^{J}	11.8	(11.4)^{S}	10.8	10.5	(10.9)$^{S}_{J}$	8.1	7.2	(6.7)$^{S}_{F}$	6.4	6.0
11	6.0^{F}	[5.8]^{C}	5.8^{F}	5.3^{F}	5.2^{F}	4.9^{F}	4.3^{F}	6.7	8.1	9.6	10.6	10.2	11.0	11.1	11.1	10.9	10.4	10.6	10.0	9.0	8.1	7.2	6.9	6.3^{F}
12	(6.1)$^{J}_{F}$	6.0^{F}	(5.9)^{J}	5.7^{F}	4.9^{F}	4.0^{F}	(4.0)$^{J}_{F}$	7.0^{F}	9.1	10.3	10.7	10.9	11.1	11.1	11.2	11.5	11.3	11.0	(10.8)^{S}	9.5	8.4	7.6	7.6	6.9
13	6.4	6.0	5.6	5.2	4.8	4.5	4.9	7.2	9.5	9.7	11.0	11.5	11.2	11.4	11.4	11.5	11.6	11.4	(10.7)^{S}	(9.6)$^{S}_{F}$	9.0	(8.0)^{S}	7.5	6.7
14	C	C	C	C	C	C	C	C	C	(9.2)$^{J}_{S}$	C	C	10.7	10.7	11.1	10.4	10.6	10.6	9.7	8.8	7.4^{F}	7.0	C	C
15	C	C	C	C	C	C	C	C	C	7.8*	9.0	10.0	10.0	10.3	10.2	10.0	9.8	9.8	(9.2)$^{J}_{S}$	8.6	7.7	6.8	(6.1)$^{J}_{S}$	5.7
16	5.3	(5.3)^{S}	(5.2)^{S}	4.9	4.6	4.7	5.0^{F}	6.9^{F}	8.4	9.4	10.0	10.7	10.8	10.7	10.8	10.6	10.3	9.7	(9.1)$^{J}_{S}$	8.4	7.7	(7.1)^{S}	6.4	(6.0)^{S}
17	(5.4)^{S}	(5.1)$^{J}_{F}$	(5.1)$^{S}_{F}$	(4.8)^{F}	4.6^{F}	(4.3)$^{S}_{F}$	4.5^{F}	6.6^{F}	8.0^{F}	8.5	9.7	9.5	9.7^{F}	[9.8]^{T}	9.8	9.6	9.8	9.7	9.9	9.3^{F}	(8.1)$^{S}_{F}$	(7.0)$^{S}_{F}$	(6.2)$^{S}_{F}$	(5.8)$^{S}_{F}$
18	(5.8)$^{S}_{F}$	(5.1)^{F}	5.2^{F}	5.0^{F}	4.6^{F}	(4.4)$^{J}_{F}$	4.8^{F}	6.2^{F}	(8.1)^{S}	8.6^{F}	9.1	10.0	10.0	10.5	(10.4)^{J}	10.2	10.3	10.4	(10.0)$^{S}_{J}$	(8.5)$^{S}_{F}$	7.7^{F}	7.0^{F}	(6.2)$^{S}_{F}$	(6.0)$^{S}_{F}$
19	(6.2)$^{J}_{F}$	[6.0]$^{C}_{K}$	[5.2]$^{C}_{K}$	3.5^{K}	(2.9)$^{F}_{K}$	(2.9)$^{F}_{K}$	(2.9)$^{F}_{K}$	3.2^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	4.8$^{G}_{K}$	5.0^{K}	4.9^{K}	4.4$^{F}_{K}$	(4.0)$^{S}_{K}$	(4.0)$^{S}_{F}$	(3.7)$^{S}_{F}$	3.3$^{F}_{K}$
20	3.1$^{F}_{K}$	C^{K}	C^{K}	C^{K}	[2.7]$^{C}_{K}$	2.8$^{F}_{K}$	4.5^{F}	(5.6)$^{J}_{S}$	6.7	[7.3]^{T}	7.9	8.5	8.7	9.1	9.4	9.5	9.7	(9.6)^{S}	(9.1)^{S}	(8.4)^{S}	(7.4)$^{S}_{K}$	(6.9)$^{S}_{F}$	6.5	(6.6)^{S}
21	(5.7)$^{S}_{F}$	(5.0)^{J}	(4.8)$^{J}_{F}$	(5.6)^{J}	(4.9)^{F}	3.0	(3.9)^{S}	6.9^{F}	(7.2)$^{S}_{K}$	9.7	10.2	10.8	11.4	11.6	11.4	(10.7)^{S}	10.6	(10.3)$^{S}_{F}$	(10.0)^{S}	(9.3)^{S}	(8.0)$^{S}_{K}$	(7.1)^{S}	(5.9)$^{S}_{K}$	(5.7)^{S}
22	(5.3)$^{S}_{F}$	(3.6)$^{S}_{F}$	(3.9)$^{S}_{F}$	(4.6)$^{S}_{F}$	(4.3)$^{S}_{F}$	[4.0]$^{S}_{F}$	(3.7)$^{S}_{F}$	(7.1)^{S}	9.2	(10.8)^{S}	11.9	12.4	12.0	11.7	[11.7]^{M}	11.2	11.5	(11.7)^{S}	(10.7)$^{J}_{S}$	9.3	(8.4)^{S}	(8.0)$^{J}_{S}$	(6.8)^{S}	(6.7)^{S}
23	(6.4)^{S}	(5.5)^{S}	(4.9)$^{S}_{F}$	(4.4)$^{S}_{F}$	(3.9)$^{S}_{F}$	(3.3)$^{S}_{F}$	3.9^{F}	(5.2)$^{F}_{Z}$	6.5^{F}	M	M	M	M	10.3	10.5	10.8	10.2	(10.1)^{J}	9.3	(8.1)^{S}	(7.3)$^{S}_{F}$	(6.8)$^{S}_{F}$	(6.1)$^{J}_{F}$	(5.7)$^{S}_{F}$
24	(5.9)$^{S}_{F}$	(5.4)$^{S}_{F}$	(4.4)$^{J}_{F}$	(3.7)$^{S}_{F}$	(3.2)$^{S}_{F}$	(2.8)$^{S}_{F}$	3.9^{F}	5.2$^{F}_{K}$	(5.9)$^{S}_{F}$	(6.7)$^{R}_{K}$	6.4^{K}	6.2^{K}	6.2^{K}	6.2^{K}	(6.0)$^{J}_{S}$	6.2^{K}	6.2^{K}	(6.3)$^{S}_{K}$	(6.2)$^{S}_{K}$	(5.7)$^{S}_{K}$	(5.5)$^{S}_{K}$	4.7^{K}	(4.1)$^{S}_{K}$	(3.9)$^{S}_{K}$
25	3.6$^{K}_{F}$	3.0^{F}	(2.9)$^{S}_{K}$	(3.0)$^{S}_{K}$	(2.8)$^{S}_{F}$	(2.5)$^{S}_{F}$	(3.4)$^{S}_{K}$	4.8^{K}	(5.6)$^{J}_{S}$	6.4^{K}	(6.9)$^{S}_{K}$	7.4^{K}	8.0^{K}	7.8^{K}	8.0^{K}	7.9^{K}	8.0^{K}	8.0^{K}	(8.2)$^{S}_{K}$	(7.8)$^{S}_{K}$	(6.4)$^{S}_{K}$	(5.9)$^{S}_{K}$	(5.1)$^{S}_{K}$	4.9^{K}
26	(4.7)^{S}	4.5	(4.3)^{S}	(3.7)$^{S}_{J}$	3.6	3.2	(4.3)^{S}	6.3^{V}	7.8	8.6	8.1	8.4^{Z}	8.6	9.2	9.3	9.3	9.3	(9.3)^{S}	(8.7)^{S}	(8.0)^{S}	(7.4)^{S}	(6.8)^{S}	(6.0)$^{S}_{J}$	(5.9)$^{S}_{J}$
27	(5.6)$^{J}_{F}$	5.0	(5.3)^{S}	(5.0)^{S}	(4.2)^{S}	3.5	4.0	5.3	6.7	6.8	7.5^{V}	8.5	9.0	(9.2)^{Z}	9.5	9.6	9.3	9.7	(9.1)^{S}	(9.2)^{S}	(7.6)$^{S}_{J}$	(6.7)^{S}	6.3	(5.9)$^{S}_{J}$
28	□(5.6)	□(5.1)	□(5.0)	□(4.7)$^{S}_{F}$	□(4.5)^{F}	□(4.0)$^{S}_{F}$	□(4.4)^{F}	□(6.8)^{S}	□(7.9)	9.2	10.5	(10.4)^{J}	10.4	[10.4]^{Q}	10.4	10.3	10.0	(10.2)$^{J}_{S}$	(9.8)^{S}	(8.8)^{S}	(7.6)^{S}	(6.8)^{S}	(6.1)^{S}	(6.0)$^{S}_{F}$
29	(5.8)$^{S}_{F}$	(5.5)$^{S}_{F}$	(5.4)$^{J}_{F}$	4.9^{F}	4.4^{F}	3.7^{F}	(4.3)^{J}	(5.7)^{S}	8.0	8.8	10.0	10.4	10.6	10.6	[11.1]^{M}	11.0	10.6	(10.3)^{S}	10.1	(9.2)^{S}	(7.9)$^{S}_{J}$	(7.0)^{S}	6.7	6.1
30	(6.0)^{S}	(5.8)^{S}	5.3	(5.2)$^{S}_{F}$	4.7^{F}	(4.0)$^{J}_{F}$	4.4^{F}	5.7^{F}	6.6^{F}	7.3	7.5	8.7	9.4	9.8	9.7	9.6	9.6	(9.7)^{S}	(9.3)^{S}	(9.0)^{S}	(7.3)^{S}	(7.0)^{S}	(6.0)$^{S}_{F}$	(5.8)$^{F}_{S}$
31	5.8^{F}	5.4^{F}	5.2^{F}	4.5^{F}	4.2^{F}	4.6^{F}	4.8^{F}	6.5^{F}	6.9^{Z}	8.0^{F}	8.9	9.2	9.4	10.0	10.5	10.5	10.0	9.6	10.0	(8.8)^{S}	7.8	(7.3)^{S}	7.3	6.2^{F}
Median	5.7	(5.4)	(5.2)	4.8	4.2	4.0	4.0	6.1	7.9	8.7	9.4	10.1	10.5	10.6	10.5	10.5	10.2	9.9	(9.5)	(8.6)	(7.6)	(7.0)	6.2	5.9
Count	28	27	27	27	28	28	28	28	27	29	28	28	29	30	29	29	31	30	30	30	30	30	29	29

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual ☐ Automatic ☒

TABLE 38

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), March (Month), 1950

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: B.E.B., J.S.

Lat. 38.7°N, Long. 77.1°W

75°W Mean Time

Calculated by: By H - J.W

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	(5.7)^{S}	(5.3)^{S}	(5.1)^{S}	(4.4)$^{J}_{S}$	(3.9)$^{J}_{S}$	3.5	F(4.1)$^{J}_{S}$	6.2	7.9	(8.5)^{S}	9.8	9.4	11.1	10.8	M	10.8	(10.1)$^{S}_{J}$	C	C	(7.0)^{S}	(6.0)$^{J}_{S}$	(5.7)$^{J}_{S}$	(5.2)^{S}	5.0
2	4.8	4.8	4.7	(4.2)^{S}	3.9	3.6	4.7	7.2	(8.7)^{S}	9.0	10.0	10.0	(11.2)$^{S}_{D}$	10.8	11.1	10.5	(9.5)^{S}	9.1	[7.8]^{C}	(6.4)$^{S}_{D}$	(6.1)^{S}	(5.7)^{S}	(5.5)^{S}	(5.1)^{S}
3	(4.4)$^{S}_{J}$	(4.1)$^{S}_{J}$	(3.9)$^{S}_{J}$	(3.9)$^{S}_{J}$	(3.9)$^{S}_{J}$	3.6	4.7	7.1	8.8	(9.2)^{S}	(10.0)^{S}	10.6	11.1	10.7	11.0	10.6	10.1	(9.8)$^{S}_{D}$	8.7	7.5	(6.9)^{S}	6.2	(5.9)^{S}	(5.5)^{S}
4	4.9	4.6	4.2	(4.0)^{S}	3.7	3.2	4.5	(6.8)^{S}	7.9	8.8	10.8	10.7	11.2	10.8	10.4	10.1	10.1	10.0	(9.1)^{S}	(7.9)^{S}	6.6	5.9	4.5	5.2
5	5.0	5.1	4.8	4.7	3.6	3.4	4.6	7.4	8.5	9.3	9.3	10.0	10.2	10.4	10.0	10.0	9.7	9.3	(9.0)^{S}	7.8	7.3	7.1	(6.1)^{S}	5.8
6	(5.5)^{S}	5.7	5.5	5.2	4.5	(4.1)$^{S}_{J}$	4.7	6.7	7.9	9.0	10.1	10.2	10.6	10.5	10.8	10.4	10.6	(9.6)^{S}	(9.1)^{S}	(8.4)^{S}	(8.1)^{S}	7.3	7.0	6.5
7	5.9	5.7	(5.3)$^{S}_{E}$	3.9^{F}	K(3.9)$^{S}_{D}$	K(3.9)$^{S}_{F}$	K(4.3)$^{S}_{F}$	5.5$^{F}_{K}$	6.0^{K}	6.8^{K}	(7.1)$^{S}_{K}$	8.4^{K}	8.6^{K}	9.3^{K}	9.2^{K}	(9.3)$^{S}_{K}$	(9.7)$^{S}_{K}$	C	C	C	(6.4)^{S}	C	C	C
8	C	C	C	C	C	C	C	C	C	(9.6)^{H}	10.0	10.9	11.8	(11.9)^{S}	(11.5)^{S}	11.2	10.8	(10.3)$^{S}_{J}$	(9.8)$^{S}_{J}$	(8.1)$^{S}_{D}$	(7.3)^{S}	(6.8)$^{S}_{J}$	6.6	6.6
9	6.3	(6.0)$^{S}_{J}$	(5.8)$^{S}_{J}$	4.7^{F}	4.0	(3.9)^{S}	5.2	7.7	(9.0)^{S}	10.1	10.6	11.2	11.5	11.7	[11.8]^{K}	11.3	11.0	(10.3)$^{S}_{J}$	(9.4)^{S}	(8.4)^{S}	(7.6)^{S}	6.8	(6.7)^{S}	6.4
10	(6.2)^{S}	5.8	(5.4)^{F}	[5.2]^{C}	5.0^{F}	4.4^{F}	5.3	7.4	8.8	9.8	10.6	11.4	11.3	11.7	11.4	10.9	10.6	10.4	9.2	7.5	(6.9)$^{S}_{D}$	6.6	6.3	6.0^{F}
11	5.8^{F}	(5.8)$^{S}_{F}$	(5.5)$^{S}_{F}$	5.2^{F}	[5.0]^{C}	(4.7)$^{S}_{F}$	5.1^{F}	7.5	8.8	10.0	11.0	10.8	11.1	11.1	10.8	10.6	10.5	(10.5)^{S}	(9.7)^{S}	8.5	7.6	7.2	6.7^{F}	6.4^{F}
12	(6.4)$^{S}_{F}$	5.8^{F}	5.8^{F}	5.2^{F}	4.3^{F}	3.8^{F}	5.2^{F}	8.6^{F}	10.0	10.5	11.3	11.1	11.1	11.2	11.3	11.3	11.2	(10.8)^{S}	(10.2)$^{S}_{J}$	8.8	8.1	7.7	7.1	[6.6]^{C}
13	6.3	5.7	5.5	5.0	4.7	4.5	5.8	8.4	9.1	9.7	11.3	10.9	11.4	11.5	11.4	11.3	11.7	10.7	(10.4)$^{S}_{S}$	(9.5)$^{S}_{D}$	(8.6)^{S}	(7.8)^{S}	(6.8)^{S}	C
14	C	C	C	C	C	C	C	C	C	9.5	[10.2]^{C}	11.0	10.5	10.9	10.6	10.7	10.6	(10.4)^{S}	(9.3)$^{S}_{J}$	(8.0)^{S}	[7.2]^{C}	6.4	C	C
15	C	C	C	C	C	C	C	C	C	*(8.1)^{J}	(9.9)^{J}	10.0	10.1	10.4	10.1	9.7	9.8	9.5	8.8	8.1	7.1	6.5	6.0	5.5
16	5.0	5.3	5.0	4.7^{F}	4.6	4.7	(6.1)$^{J}_{S}$	8.0	8.5^{V}	9.6	10.8	11.2	10.6	10.9	10.7	10.4	(10.1)$^{J}_{S}$	(9.4)^{S}	(8.8)^{S}	(8.1)$^{S}_{D}$	(7.4)$^{S}_{J}$	(6.8)$^{S}_{J}$	(6.2)^{S}	(5.6)^{S}
17	5.3	(5.1)^{S}	5.1^{F}	4.8^{F}	(4.5)$^{S}_{F}$	(4.2)$^{S}_{F}$	(5.5)$^{S}_{F}$	7.2^{F}	8.8	(8.9)$^{J}_{S}$	9.4	9.8	[9.8]^{T}	9.9	9.9	(9.7)^{S}	(9.9)^{S}	9.9	9.7	(8.7)$^{S}_{E}$	[7.7]^{C}	(6.7)$^{S}_{F}$	F(6.2)$^{S}_{S}$	(6.8)$^{S}_{F}$
18	(5.5)$^{S}_{F}$	(5.6)$^{S}_{F}$	(5.4)$^{S}_{F}$	4.7^{F}	4.5^{F}	(4.6)$^{S}_{F}$	5.7^{F}	(7.4)$^{S}_{D}$	(9.0)$^{J}_{S}$	(8.8)^{S}	(9.8)^{J}	10.0	10.4	10.7	(10.0)^{J}	10.4	10.3	(10.4)$^{J}_{S}$	(9.0)^{S}	(8.1)^{S}	(7.6)$^{S}_{F}$	(6.6)$^{J}_{F}$	(6.3)$^{S}_{F}$	(6.0)$^{J}_{F}$
19	(6.0)$^{S}_{F}$	K(5.9)$^{S}_{F}$	4.6$^{F}_{K}$	(2.8)$^{J}_{K}$	(3.3)$^{D}_{K}$	2.9$^{F}_{K}$	2.7^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	3^{K}	4.7^{K}	4.8^{K}	5.0^{K}	4.4^{K}	$^{S}_{K}$(4.0)$^{J}_{F}$	$^{S}_{K}$(3.9)$^{J}_{F}$	3.8$^{F}_{K}$	3.5$^{F}_{K}$	$^{S}_{K}$(3.1)$^{S}_{E}$
20	C^{K}	C^{K}	C^{K}	2.7$^{F}_{K}$	2.7$^{F}_{K}$	2.9$^{F}_{K}$	5.0^{F}	6.2	6.8	[7.4]^{T}	9.1	9.5	(9.4)$^{J}_{S}$	9.2	9.4	(9.7)^{S}	(9.6)^{S}	(9.5)^{S}	(8.6)$^{J}_{S}$	(7.9)^{S}	(6.9)^{S}	6.6	6.3	C
21	[5.4]^{C}	[4.9]^{C}	[5.2]^{C}	[5.2]^{C}	(4.0)$^{J}_{S}$	2.8	5.4^{F}	7.0^{F}	8.7^{F}	(9.7)^{J}	10.3	11.4	11.7	11.6	11.3	10.6	(10.4)$^{J}_{E}$	(10.3)$^{J}_{S}$	(10.2)$^{J}_{S}$	(8.7)^{S}	(7.4)^{S}	(6.6)^{S}	(5.9)$^{S}_{D}$	(5.6)$^{S}_{E}$
22	(4.9)$^{S}_{F}$	(4.0)$^{S}_{F}$	(4.5)$^{S}_{F}$	(4.7)$^{S}_{F}$	(3.8)$^{S}_{E}$	(3.8)$^{S}_{F}$	(5.8)$^{S}_{E}$	(7.8)^{S}	10.1	(11.4)^{S}	12.7	12.0	11.9	11.5	11.9	(11.3)^{S}	(11.5)^{S}	(11.7)^{S}	(10.6)^{S}	(9.2)$^{S}_{D}$	(8.3)$^{S}_{D}$	(7.2)$^{S}_{D}$	(6.7)^{S}	(6.6)^{S}
23	(5.9)^{S}	(4.9)$^{S}_{F}$	(4.6)$^{S}_{F}$	(4.6)$^{S}_{F}$	^{J}(3.8)$^{S}_{E}$	(3.3)$^{S}_{F}$	4.7^{F}	5.8^{F}	7.3^{F}	M	M	M	10.6	10.7	10.8	10.7	(10.0)^{S}	(9.9)^{S}	(9.0)^{S}	(7.8)$^{S}_{J}$	(7.1)$^{S}_{E}$	(6.2)$^{S}_{F}$	(6.2)$^{J}_{F}$	(5.6)$^{S}_{E}$
24	(5.6)$^{S}_{S}$	(5.0)$^{S}_{E}$	(4.0)$^{J}_{F}$	(3.6)$^{J}_{F}$	(3.3)$^{S}_{E}$	3.1^{F}	4.8^{F}	(6.0)$^{S}_{K}$	6.7^{K}	(6.2)$^{F}_{K}$	(6.1)$^{S}_{K}$	6.3^{K}	6.3^{K}	(5.9)$^{J}_{S}$	6.1^{K}	(6.3)$^{S}_{K}$	6.4^{K}	(6.3)$^{S}_{K}$	5.8^{K}	(5.6)$^{S}_{K}$	^{K}(4.7)$^{S}_{S}$	^{K}(4.3)$^{J}_{S}$	^{K}(4.1)$^{S}_{S}$	(3.8)$^{S}_{K}$
25	3.4^{K}	(2.9)$^{S}_{K}$	(2.9)$^{S}_{K}$	^{K}(2.8)$^{S}_{E}$	[2.8]$^{S}_{K}$	K(2.7)$^{S}_{S}$	(4.2)$^{S}_{K}$	5.3^{K}	(6.0)$^{S}_{K}$	6.6^{K}	K(7.2)$^{S}_{S}$	7.7^{K}	7.9^{K}	7.9^{K}	7.9^{K}	8.0^{K}	7.9^{K}	(8.1)$^{S}_{K}$	(8.1)$^{S}_{K}$	K(7.0)$^{S}_{F}$	(6.2)$^{S}_{K}$	5.6^{K}	K(5.1)$^{J}_{F}$	4.7^{K}
26	4.6	4.6	4.2	(3.7)$^{S}_{S}$	(3.4)$^{S}_{E}$	(3.2)^{S}	(5.8)$^{S}_{V}$	7.6	7.9	8.5	7.8^{Z}	9.0	(8.7)^{S}	9.4	9.4	9.5	(9.3)^{S}	(8.8)^{S}	(8.7)^{S}	(7.8)$^{J}_{S}$	(7.2)$^{J}_{S}$	(6.7)^{S}	(5.7)$^{J}_{S}$	(5.9)^{S}
27	(5.4)^{S}	5.2	(5.1)$^{S}_{E}$	(4.8)^{S}	(3.9)^{S}	(3.4)$^{S}_{D}$	4.7	(5.8)$^{J}_{S}$	6.3	(7.2)^{J}	7.7^{V}	8.7	9.0	9.7	9.6	(9.7)^{S}	9.3	9.5	(7.7)^{S}	(3.2)$^{J}_{S}$	(7.1)^{S}	6.5	5.9	5.6
28	□(5.2)^{J}	□[5.0]^{C}	□(4.8)	□(4.6)^{F}	□(4.2)$^{S}_{E}$	□(3.9)$^{S}_{F}$	□(5.3)^{F}	□(7.4)	□(8.3)	(7.8)^{J}	11.0	10.5	10.4	10.1	10.2	[10.2]^{C}	[10.1]^{C}	(10.2)^{S}	(9.4)^{S}	(8.1)$^{J}_{S}$	(7.2)^{S}	(6.5)^{S}	(5.7)$^{S}_{E}$	(6.0)$^{S}_{E}$
29	F(5.7)$^{J}_{S}$	5.7^{F}	5.3^{F}	4.7^{F}	(4.0)$^{J}_{E}$	(3.7)$^{S}_{E}$	5.2	6.9	8.4	9.6	10.2	10.3	10.7	11.2	11.0	10.8	10.5	(10.2)^{S}	(9.7)$^{S}_{D}$	(8.6)^{S}	(7.7)^{S}	(7.0)^{S}	6.6	(6.2)$^{J}_{S}$
30	(5.8)^{S}	5.6	(5.4)^{S}	4.9^{F}	(4.7)^{F}	(3.9)$^{J}_{E}$	5.2^{F}	6.0^{F}	6.8^{F}	7.2	7.9	8.9	9.6	9.8	9.7	9.7	9.6	(9.5)^{S}	[9.8]^{C}	[3.2]^{C}	[7.2]^{C}	(6.8)^{S}	(6.0)$^{S}_{E}$	5.3^{F}
31	5.7^{F}	5.2^{F}	4.9^{F}	4.4^{F}	4.5^{F}	4.4^{F}	5.8^{F}	7.3	7.4	8.1$^{F}_{Z}$	9.2	9.2	9.7	10.7	10.5	(10.3)^{S}	9.9	9.9	9.4	(8.3)^{S}	(7.8)^{S}	(7.8)^{S}	(7.1)$^{S}_{E}$	(6.4)$^{S}_{E}$
Median	(5.5)	5.2	5.1	4.7	(4.0)	3.8	5.2	7.2	8.4	9.0	10.0	10.2	10.6	10.7	10.6	10.4	10.1	(9.9)	(9.2)	(8.1)	(7.2)	(6.6)	(6.1)	(5.8)
Count	27	27	27	28	28	28	28	27	27	29	29	27	30	30	29	31	31	29	29	30	31	30	29	27

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in .05 min

Manual □ Automatic ☒

TABLE 39

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D C

Form adopted June 1946

IONOSPHERIC DATA

h'F1 (Characteristic), Km (Unit), March (Month), 1950

National Bureau of Standards (Institution)

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

Scaled by: B.E.B., J.S.

Calculated by: By H. – J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q					
2								Q	Q	Q	210	Q	210	Q	M	M	Q	Q	Q					
3								Q	Q	Q	Q	200	Q	210	220	210^{H}	Q	Q	Q					
4								Q	Q	Q	220	220	200	(230)^{H}	Q	200	Q	Q	Q					
5								Q	Q	220	220	200	200	200	220	220	220	Q	Q					
6								Q	Q	Q	200	200	(200)^{B}	220	220	(200)^{B}	Q	Q	Q					
7								Q^{K}	Q^{K}	240^{K}	220^{K}	230^{K}	(220)$^{B}_{K}$	230^{K}	220^{K}	210^{K}	Q^{K}	C	C					
8								C	C	Q	210	210	210	230	220	Q	Q	Q	Q					
9								Q	Q	210	Q	Q	Q	210	220	Q	Q	Q	Q					
10								Q	Q	Q	Q	Q	220	220	220^{H}	230	Q	Q	Q					
11								Q	Q	Q	220^{H}	230	Q	Q	Q	Q	Q	Q	Q					
12								Q	Q	Q	Q	230	Q	Q	210	Q	Q	Q	Q					
13								Q	Q	Q	Q	210	210	210^{H}	Q	220	Q	Q	Q					
14								C	C	220	C	C	Q	Q	220	Q	Q	Q	Q					
15								C	C	230*	210^{H}	200^{H}	220	210	210	220	Q	Q	Q					
16								Q	Q	230	230	220	Q	210	Q	Q	Q	Q	Q					
17								Q	Q	Q	220	(230)^{B}	Q	T	Q	(220)^{B}	Q	Q	Q					
18								Q	230	220	210	200	[210]^{C}	220	[220]^{C}	220	(230)^{B}	Q	Q					
19								290^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	240^{K}	270^{K}	Q^{K}					
20								Q	Q	T	220	210	200	230	220	220	230	Q	Q					
21								Q	Q	230	210	B	220	Q	220	Q	B	Q	Q					
22								Q	Q	Q	Q	230	230	220	[220]^{M}	220^{H}	Q	Q	Q					
23								Q	Q	M	M	M	M	210	210	Q	Q	Q	Q					
24								Q^{K}	Q^{K}	Q^{K}	230^{K}	230^{K}	200^{K}	250^{K}	240^{K}	250^{K}	240^{K}	270^{K}	Q^{K}					
25								Q^{K}	230^{K}	210^{K}	220^{K}	200$^{H}_{K}$	200^{K}	230^{K}	210$^{H}_{K}$	230^{K}	230^{K}	Q^{K}	Q^{K}					
26								Q	220	Q	A	220^{H}	200	(210)^{B}	230	230	240	Q	Q					
27								Q	220	200	190	200	300	(240)^{B}	230	230^{H}	240	Q	Q					
28								Q$^{\square}$	Q$^{\square}$	210	200	Q	230	[220]^{C}	200	220	Q	Q	Q					
29								Q	Q	Q	210	210	200	210	[220]^{M}	220	Q	Q	Q					
30								Q	220	210	200	210	200^{H}	230	220	Q	Q	Q	Q					
31								Q	230	Q	210	Q	230	230^{H}	220^{H}	230	250	Q	Q					
Median								—	220	220	210	210	210	220	220	220	240	—						
Count								1	6	12	20	21	21	23	23	19	9	2						

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual ☐ Automatic ☒

TABLE 40

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF1 (Characteristic), Mc (Unit), Morch (Month), 1950

Observed at Washington, D.C.

Lat. 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B. E. B., J. S.

Calculated by: By. H. – J. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q	Q	Q	Q	Q	Q	Q	M	M	Q	Q	Q					
2								Q	Q	Q	L	Q	L	Q	Q	Q	Q	Q	Q					
3								Q	Q	Q	Q	L	Q	L	L	L	Q	Q	Q					
4								Q	Q	Q	L	L	L	L	Q	L	Q	Q	Q					
5								Q	Q	L	L	L	L	(49)^{P}	L	L	L	Q	Q					
6								Q	Q	Q	49^{H}	47^{H}	49	L	L	L	Q	Q	Q					
7								Q^{K}	Q^{K}	45^{K}	L^{K}	50^{K}	51^{K}	L^{K}	L^{K}	L^{K}	Q^{K}	C	C					
8								C	C	Q	L	L	L	L	L	Q	Q	Q	Q					
9								Q	Q	L	Q	Q	Q	L	L	Q	Q	Q	Q					
10								Q	Q	Q	Q	Q	L	(51)^{P}	L	L	Q	Q	Q					
11								Q	Q	Q	L	L	Q	Q	Q	Q	Q	Q	Q					
12								Q	Q	Q	Q	L	Q	Q	49	Q	Q	Q	Q					
13								Q	Q	Q	Q	L	L	L	Q	L	Q	Q	Q					
14								C	C	L	C	C	Q	Q	L	Q	Q	Q	Q					
15								C	C	L*	L	L	L	L	L	L	Q	Q	Q					
16								Q	Q	L	L	L	Q	L	Q	Q	Q	Q	Q					
17								Q	Q	Q	L	L	Q	T	Q	L	Q	Q	Q					
18								Q	L	L	L	L	C	L	L	L	L	Q	Q					
19								29^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	48^{K}	(39)$^{P}_{K}$	Q^{K}					
20								Q	Q	T	L	(49)^{P}	49	52	L	L	L	Q	Q					
21								Q	Q	L	L	B	L	Q	L	Q	B	Q	Q					
22								Q	Q	Q	Q	L	L	L	M	(43)^{P}	Q	Q	Q					
23								Q	Q	M	M	M	M	L	L	Q	Q	Q	Q					
24								Q^{K}	Q^{K}	Q^{K}	45^{K}	46^{K}	(46)$^{S}_{K}$	46^{K}	47^{K}	46^{K}	L^{K}	L^{K}	Q^{K}					
25								Q^{K}	L^{K}	(47)$^{P}_{K}$	50^{K}	(51)$^{P}_{K}$	44^{K}	(51)$^{P}_{K}$	(50)$^{P}_{K}$	L^{K}	L^{K}	Q^{K}	Q^{K}					
26								Q	L	Q	L	(58)^{F}	(50)^{P}	46	.Z	L	L	Q	Q					
27								Q	L	(42)^{P}	N	48	L	50	49	L	L	Q	Q					
28								Q□	Q□	L	L	Q	L	C	47	L	Q	Q	Q					
29								Q	Q	Q	L	L	L	L	M	L	Q	Q	Q					
30								Q	L	L	(49)^{P}	54	(53)^{F}	L	L	Q	Q	Q	Q					
31								Q	L	Q	L	Q	L	L	L	(47)^{F}	L	Q	Q					
Median								—	—	—	—	50	49	50	49	—	—	—						
Count								1		3	4	8	7	7	5	3	1	1						

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

TABLE 41

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), March (Month), 1950

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat 38.7°N, Lang 77.1°W

75°W Mean Time

Scaled by: B.E.B., J.S.

Calculated by: By H. – J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								S	100	100 H	100	100	B	B	M	M	100	(110) A						
2									110	100	100	B	B	B	110	110	110	(120) B						
3								S	110	100	100	100	100	B	B	110	110	(120) B						
4									(100) S	(100) B	100	100	[100] B	110	100	100	100	100						
5								B	100	100	100	B	B	(100) B	100	100	100	110						
6								(130) S	110	100	100	100	B	B	B	B	(120) B	(120) B						
7								A K	100 K	[100] B K	(100) B K	B K	B K	(110) B K	100 K	100 K	110 K	C						
8									C	110	100	B	[110] B	110	110	100	110	110	S					
9								120	120	110	(100) B	100	100	110	100	110	110	110						
10								(130) S	110	100	(100) B	[100] B	(100) B	(110) B	(100) A	100	100	110	S					
11								(100) S	(100) A	100	100	100	(100) C	[100] B	(110) B	110	100	100	S					
12								120	100	100	100	100	(100) B	100	100	100	100	100	S					
13								110	(100) A	100	100	(100) B	100	100	100	100	100	(110) S	S					
14								C	C	100	C	C	100	[100] B	100	100	100	120	120					
15								C	C	100 *	110	100	100	100	100	(110) B	100	(120) B	S					
16								(130) S	110	100	100	110	100	110	[100] S	100	(120) B	B	S					
17								120	110	B	B	(110) B	B	T	100	100	110	120	S					
18								120	110	100	100	100	C	C	C	C	110	B	B					
19								110 K	C K	C K	C K	C K	C K	C K	C K	C K	110 K	110 K	S K					
20									110	[100] T	100	100	100	110	110	100	100	110	S					
21								120	100	100	100	[100] B	(110) B	(110) B	100	100	B	B	S					
22								120	100	100	[100] A	100	100	100	[100] M	100	100	110	S					
23								120	100	M	M	M	M	100	100	100	100	110	S					
24								(110) S K	100 K	100 K	100 K	(100) A K	100 K	100 K	100 K	(100) A K	(100) M K	(120) B K	B K					
25								(100) A K	(100) A K	(100) A K	(100) A K	(100) A K	[100] B K	(100) A K	100 K	100 K	110 K	110 K	S K					
26								110	110	(100) A	A	A	(100) A	[100] C	100	100	110	110	S					
27								(130) B	100	100	[100] B	(100) A	(100) A	[100] B	(100) B	[100] B	110	110	S					
28								(110) D	(110) D	100	B	B	B	C	B	100	100	110	S					
29								B	B	100	100	(100) A	(100) A	(100) A	[100] M	100	100	110	120					
30								110	100	110	100	100	(100) B	100	100	110	100	100	(130) S					
31								110	(110) A	110	110	(110) B	(110) B	110	110	110	110	110	(130) S					
Median								120	10?	100	100	100	(100)	100	100	100	100	110	—					
Count								20	26	28	25	22	21	23	25	27	30	27	4					

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

TABLE 42

Central Radio Propogation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foE (Characteristic), Mc (Unit), March (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W — 75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

Calculated by: By. H. – J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								1.7	2.4	2.9	3.1	3.3	(3.3)^{B}	3.4	M	M	2.7	A						
2									2.4	2.9	3.2	[3.4]^{B}	(3.5)^{B}	3.5	3.4	3.2	2.8	(2.2)^{B}						
3								1.9	2.5	3.0	3.3	3.4	B	B	B	(3.1)^{S}	2.8	2.2						
4									2.5	3.0	(3.4)^{F}	3.6	3.6	3.5	[3.4]^{S}	3.2	2.4	2.4						
5								1.9	(2.4)^{S}	2.9	3.2	B	B	(3.4)^{S}	(3.4)^{S}	3.2	(2.4)^{A}	2.4						
6								1.8	2.4	2.8	3.1	3.2	B	B	B	B	3.0	2.5						
7								(2.1)$^{A}_{K}$	A^{K}	B^{K}	2.7^{K}	B^{K}	B^{K}	(3.5)$^{B}_{K}$	3.4^{K}	3.3^{K}	3.0^{K}	C						
8									C	3.0	3.3	3.7	[3.7]^{B}	3.8	3.7	3.5	3.0	(2.5)^{S}	S					
9								1.9	2.7	3.1	(3.3)^{B}	3.6	3.6	3.7	3.6	3.4	3.2	2.6						
10								2.0	2.7	3.1	3.5	[3.6]^{B}	3.7	3.8	3.5	3.4	3.1	2.5	1.7					
11								2.0	[2.6]^{A}	3.3	3.4	3.5	B	B	3.5	3.3	2.9	2.5	1.7					
12								2.0	2.7	3.1	3.5	3.5	3.6	3.7	3.5	3.4	3.1	2.5	1.8					
13								2.0	(2.8)^{A}	3.2	3.4	3.7	3.7	3.6	3.5	3.2	3.0	2.5	(1.6)^{S}					
14								C	C	3.1	C	C	3.4	[3.4]^{B}	3.3	3.2	2.8	2.4	1.8					
15								C	C	3.0*	3.4	3.5	3.6	3.7	3.4	3.2	3.0	2.5	1.7					
16								2.1	2.6	3.1	3.4	3.5	3.7	3.7	[3.6]^{S}	3.4	(3.1)^{B}	[2.6]^{B}	(1.8)^{B}					
17								1.9	2.7	B	B	B	B	T	3.4	3.3	3.1	2.5	(1.6)^{S}					
18								2.2	2.5	(3.1)^{B}	[3.4]^{B}	3.6	C	C	C	C	B	B	(1.8)^{B}					
19								2.0^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	2.9^{K}	2.4^{K}	(1.6)$^{S}_{K}$					
20									2.8	[3.0]^{T}	3.2	(3.5)^{P}	3.5	3.5	3.4	3.2	3.0	2.6	1.8					
21								2.2	2.7	3.1	3.3	[3.4]^{B}	(3.6)^{P}	(3.5)^{B}	3.3	3.3	B	B	1.7					
22								2.2	2.6	3.0	[3.2]^{A}	3.4	3.6	3.5	[3.4]^{M}	3.3	2.9	2.5	S					
23								2.2	2.7	M	M	M	M	3.5	3.5	3.2	3.0	2.5	(1.6)^{S}					
24								2.2^{K}	2.8^{K}	2.9^{K}	3.1^{K}	[3.3]$^{A}_{K}$	3.5^{K}	(3.4)$^{P}_{K}$	3.3^{K}	3.2^{K}	2.8^{K}	2.5^{K}	1.9^{K}					
25								(2.4)$^{P}_{K}$	[2.9]$^{P}_{K}$	(3.2)$^{A}_{K}$	[3.3]$^{A}_{K}$	3.4^{K}	[3.4]$^{B}_{K}$	3.5^{K}	3.4^{K}	3.3^{K}	3.0^{K}	2.5^{K}	1.7^{K}					
26								2.3	2.7	3.0	A	A	3.4	[3.4]^{B}	3.4	3.3	3.1	2.5	1.8					
27								(2.3)^{P}	2.6	3.1	B	B	B	B	(3.4)^{B}	[3.3]^{B}	3.1	2.5	(1.7)^{S}					
28								□(2.0)	□(2.7)	3.0	B	B	B	C	B	3.3	3.0	2.6	(1.6)^{S}					
29								(2.3)^{P}	[2.7]^{B}	3.1	3.1	3.6	3.6	(3.6)^{P}	[3.5]^{M}	3.4	3.1	2.5	1.9					
30								2.4	3.0	3.2	3.3	3.4	[3.4]^{B}	3.5	3.3	3.3	3.1	2.6	2.0					
31								2.4	2.7	3.1	3.3	3.5	3.5	3.5	(3.4)^{P}	3.3	3.0	2.6	(1.4)^{B}					
Median								2.1	2.7	3.1	3.3	3.5	3.6	3.5	3.4	3.3	3.0	2.5	1.7					
Count								25	26	27	24	22	20	23	25	27	29	27	21					

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in .05 min

Manual □ Automatic ☒

TABLE 43

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

Es (Characteristic), Mc,Km (Unit), March (Month), 1950

Observed at Washington, D.C.

Lat. 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

Calculated by: By. H. – J.K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G	G	G	G	G	G	G	G	G	G	M	M	G	24/100	G	G	G	G	G	G
2	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
3	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
4	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
5	G	G	25/100	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	30/100	G	G	G	G	G
6	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	32Y/100	G
7	G	G	G	G	G	G	G	19/110	26Y/120	G	G	G	G	G	G	G	G	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	G	G	G	G	G	G	G	G	G	G	G	26Y/100	G	G	G
9	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
10	G	G	G	G	G	G	G	G	G	G	G	G	G	G	20Y/100	G	G	G	G	G	G	G	G	G
11	G	C	G	G	G	G	G	G	41Y/100	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
12	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
13	G	G	G	G	G	G	G	G	2.6/100	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
14	C	C	C	C	C	C	C	C	C	G	C	C	G	G	G	G	G	G	G	G	29Y/110	G	C	C
15	C	C	C	C	C	C	C	C	C	G *	G	G	G	G	G	G	G	G	G	G	G	G	G	G
16	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
17	G	G	G	G	G	G	G	G	G	G	G	G	G	T	G	G	G	G	G	G	G	G	G	G
18	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	C	C	G	G	G	25Y/120	G	C	C	C	C	C	C	C	C	G	G	G	G	G	G	G	G
20	G	C	C	C	C	G	G	G	G	T	G	G	G	G	G	G	G	G	G	G	G	G	G	G
21	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
22	G	G	G	G	G	G	G	G	G	G	33/100	30/100	28/100	24/100	M	G	G	G	G	G	G	G	G	G
23	G	G	G	G	G	G	G	G	G	M	M	M	M	G	G	G	G	G	G	G	G	G	G	G
24	G	G	G	G	G	G	G	G	G	G	G	33/100	G	G	G	24/100	21/100	G	G	G	G	G	G	G
25	G	G	G	G	G	G	G	18/100	25/100	29/100	31/100	28/100	G	34/100	G	G	G	G	G	G	G	G	G	G
26	G	G	G	G	G	G	G	G	G	32/100	47/100	33/100	27/100	G	G	G	G	G	G	G	G	G	G	G
27	G	G	G	G	G	G	G	G	G	G	G	30/100	33/100	G	G	G	G	G	G	G	G	G	G	G
28	C	C	C	C	C	C	C	C	C	G	G	G	G	C	G	G	G	G	G	G	G	G	G	G
29	G	G	G	G	G	G	G	G	G	G	G	30/100	32/100	23/100	M	G	G	G	G	G	G	G	G	G
30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
31	G	G	G	G	G	G	G	G	73/110	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Median	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Count	27	24	25	26	26	27	27	27	26	28	28	28	29	28	27	29	31	30	30	30	30	30	29	29

* DATA FROM STERLING FIELD STATION

** MEDIAN fEs LESS THAN MEDIAN foE OR LESS THAN LOWER FREQUENCY LIMIT OF RECORDER.

Sweep 1.0 Mc to 25.0 Mc in 05 min

Manual ☐ Automatic ☒

TABLE 44

Central Radio Propogation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M1500)F2 (Characteristic), ____ (Unit), March (Month), 1950

Observed at Washington, D. C.

Lat. 38.7°N, Long. 77.1°W 75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

Calculated by: By. H. – J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.8	(1.8)S	1.8	1.9	(1.7)JS	(1.7)S	1.9F	2.2	2.2	(2.1)S	(2.1)SF	2.0	2.0	(2.0)J	M	M	2.1	2.0	(2.2)JS	(2.0)JS	(2.0)S	(2.0)JS	1.9	1.8
2	1.8	1.8	1.8	(1.8)S	(1.9)S	1.8	(1.7)S	(2.2)S	2.1	(2.2)S	2.2	2.0Z	1.9	2.0	2.0	2.1	2.0	2.0	2.0	(2.1)S	1.9	(1.9)S	1.9	(1.9)S
3	1.9	(1.9)JS	(1.8)JF	1.8	(1.8)S	1.9	1.9	2.2	(2.2)g	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	1.9	(2.0)S	(1.9)S	(1.9)S
4	1.9	1.9	1.9	1.9	(2.0)S	1.9	(1.9)S	2.2	2.1	2.1	2.0	(2.1)SP	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9
5	1.8	1.8	1.9	1.9	(2.1)S	1.8	1.9	2.2	2.2	2.2	(2.2)P	1.9	1.9	2.0	2.0	2.0	2.0	(2.1)SP	(2.0)S	2.0	2.0	1.9	1.9	1.8
6	1.7	1.7	1.7	1.9	1.8	1.8	(2.0)S	2.1	2.2	2.0	2.1	2.2	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.8	2.0	1.8	1.8	1.8
7	1.8	1.7	1.6F	(1.7)SF	1.6FK	(1.6)SFK	(2.1)JF	2.0FK	1.9K	1.9K	1.8K	1.9K	1.9K	2.0K	1.9K	1.9K	1.9K	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	2.2	2.1	2.0	1.9	1.9	(1.9)S	(1.9)S	2.0	(2.0)SJ	(2.0)S	(1.9)S	(1.9)JS	(1.9)SJ	(1.7)S	1.7
9	1.7	(1.8)S	(1.8)S	1.9F	1.9	(1.7)JS	1.8	2.0	(2.2)S	2.2	2.0	1.9	2.0	2.0	(1.9)S	1.9	2.0	2.0	2.0	(2.0)S	1.9	1.9	1.8	1.8
10	1.7	(1.7)JF	1.7	1.8F	1.9F	1.9F	1.9F	2.2	2.1	2.2	(2.0)J	2.0	2.0	(1.9)J	1.9	(1.9)S	2.0	1.9	(1.8)JS	2.0	1.8	(1.8)SP	1.9	1.8
11	1.8F	C	1.8F	1.9F	1.9F	1.9F	2.0F	2.2	2.1	2.1	2.1	1.9	1.9	1.9	1.9	1.8	1.9	2.0	2.0	1.9	1.9	1.8	1.7	1.8F
12	(1.8)JF	1.9F	(1.8)J	1.9F	1.9F	1.8F	(1.8)JF	2.1F	2.1	2.1	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.9	(1.9)S	1.9	1.8	1.8	1.9	1.8
13	1.8	1.8	1.8	1.9	1.9	1.8	2.0	2.1	2.3	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.9	1.9	(1.9)S	(1.9)SP	1.9	(1.9)S	1.9	1.8
14	C	C	C	C	C	C	C	C	C	(2.0)SJ	C	C	1.9	1.8	1.8	1.8	1.8	1.9	1.9	2.0	1.9F	1.7	C	C
15	C	C	C	C	C	C	C	C	C	2.0*	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	(1.9)JS	1.9	1.9	1.8	(1.8)JS	1.7
16	1.7	(1.6)S	(1.7)S	1.7	1.7	1.7	1.9F	2.1F	2.1	2.0	2.0	1.9	1.9	1.8	1.9	1.9	1.9	1.9	(1.9)SJ	1.9	1.8	(1.8)S	1.8	(1.9)S
17	(1.8)S	(1.7)SJ	(1.8)SF	(1.8)F	1.8F	(1.7)SF	2.0F	2.1F	2.1F	2.0	1.9	1.9	1.9F	T	1.9	1.9	1.9	1.9	1.9	1.9F	(2.0)SF	(1.9)SF	(1.9)SF	(1.8)SF
18	(1.7)SF	(1.8)F	1.8F	1.7F	1.6F	(1.7)J	1.9F	2.1F	(2.2)S	2.0F	2.0	2.0	1.9	1.9	(1.9)J	1.9	2.0	1.9	(2.0)SJ	(1.9)SF	1.9F	1.9F	(1.9)SF	(1.8)SF
19	(1.8)F	C K	C K	1.6K	(1.6)FK	(1.6)FK	(1.5)FK	2.1K	C K	C K	C K	C K	C K	C K	C K	C K	G K	1.7K	1.8K	1.6FK	S (1.6)FK	S (1.8)FK	S (1.7)FK	1.8FK
20	1.6FK	C K	C K	C K	C K	1.8FK	1.6F	(2.2)JS	2.1	T	1.9	1.9	1.8	1.8	1.8	1.8	1.9	(1.9)S	(1.9)S	(1.9)S	(1.8)SJ	(1.8)S	1.8	(1.7)S
21	(1.8)JF	(1.6)J	(1.7)JP	(1.8)J	(2.0)P	1.7	(1.8)S	2.1F	(2.2)SF	2.0	2.0	1.8	1.8	1.9	1.9	(1.8)S	1.8	(1.8)SP	(1.8)S	(1.9)S	(1.8)JS	(1.8)S	(1.7)JS	(1.6)S
22	(1.8)SF	(1.7)SF	(1.6)SF	(1.8)SF	(1.8)SF	SF	(2.0)SF	(2.1)S	2.0	(1.9)S	1.9	2.0	1.9	1.9	M	1.9	1.9	(1.9)S	(2.0)JS	1.9	(1.8)S	(1.9)JS	(1.9)S	(1.8)S
23	(1.9)S	(1.9)S	(1.8)SF	(1.7)SF	(1.9)SF	(1.8)SF	1.9F	(2.1)FZ	2.1F	M	M	M	M	1.9	1.9	2.0	2.0	(2.0)S	2.0	(1.9)S	(1.9)SF	(1.7)SF	(1.7)JF	(1.6)SF
24	(1.6)SF	(1.7)SF	(1.6)JF	(1.6)JF	(1.5)SF	(1.7)SF	1.8F	2.0FK	K (1.7)SF	(1.8)FK	1.7K	1.8K	1.7K	1.6K	K (1.7)JSK	1.8	K 1.9	K (1.9)S	(2.0)gSK	(1.8)JK	(1.9)SK	1.7K	(1.6)SK	(1.7)SK
25	K (1.8)SP	1.7FK	(1.5)SK	(1.6)SK	K (1.6)SPK	(1.7)JS	(1.8)SK	1.9K	(1.9)JK	1.9K	(1.9)SK	1.9K	1.9K	1.9K	1.9K	1.9K	1.7K	1.9K	(2.0)SK	(1.9)SK	(1.8)SK	(1.9)SK	(1.7)SK	1.7K
26	(1.7)S	1.7	(1.8)S	(1.8)JS	1.9	1.8	(1.9)S	2.0V	2.1	2.0	2.2	1.9Z	2.0	1.9	1.9	1.9	1.9	(1.9)S	(2.0)S	(1.9)S	(1.8)S	(1.7)S	(1.7)SJ	(1.7)JS
27	(1.6)SJ	1.5	(1.7)S	(1.8)S	(1.7)S	1.7	1.8	1.9	2.1	1.9	1.9V	1.9	1.7	(1.7)Z	1.8	1.8	1.8	1.8	(1.9)S	(1.9)S	(1.8)JS	(1.8)S	1.7	(1.7)JS
28	□ (1.6)	□ (1.7)	□ (1.8)	□ (1.8)SF	□ (1.8)F	□ (1.8)SF	□ (2.2)F	□ (2.2)S	□ (2.1)	2.0	1.9	(1.9)J	1.8	C	1.8	1.9	1.9	(2.0)JS	(2.0)S	(2.0)S	(1.8)S	(1.9)S	(1.8)S	(1.7)SF
29	(1.7)SF	(1.8)SF	(1.8)J	1.8F	1.8F	1.7F	(1.9)J	(2.1)S	2.1	2.0	1.9	1.9	1.8	1.8	M	1.8	1.9	(1.9)S	2.0	(1.9)S	(1.8)SJ	(1.8)S	1.7	1.7
30	(1.7)S	(1.7)S	1.7	(1.8)SF	1.7F	(2.0)JF	1.9F	2.1F	2.1F	2.0	1.9	1.9	1.8	1.9	1.8	1.8	1.9	(1.9)S	(2.0)S	(1.9)S	(1.9)S	(1.8)S	(1.8)SF	(1.7)SF
31	1.7F	1.7F	1.7F	1.7F	1.6F	1.6F	1.9F	2.0F	2.0Z	1.9F	1.9	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.9	(1.8)S	1.8	(1.7)S	1.7	1.7F
Median	1.8	(1.7)	1.8	1.8	1.8	1.8	1.9	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	(2.0)	(1.9)	(1.9)	(1.8)	1.8	1.8
Count	28	25	26	27	27	27	28	28	27	28	28	28	29	28	27	29	31	30	30	30	30	30	29	29

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

TABLE 45

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F2 (Characteristic), ____ (Unit), March (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W 75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

Calculated by: By. H. – J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.7	(2.8)^{S}	2.8	2.8	(2.7)$^{S}_{F}$	(2.6)^{S}	2.9^{F}	3.2	3.2	(3.2)^{S}	(3.2)$^{S}_{F}$	3.1	3.0	(3.0)^{F}	M	M	3.2	3.0	(3.2)$^{F}_{S}$	(3.0)$^{F}_{S}$	(3.1)^{S}	(3.0)$^{F}_{S}$	2.8	2.8
2	2.8	2.7	2.7	(2.8)^{S}	(2.8)^{S}	2.7	(2.6)^{S}	(3.3)^{S}	3.1	(3.3)^{S}	3.3	3.1^{Z}	2.8	3.0	3.0	3.0	3.0	3.1	3.1	(3.1)^{S}	2.9	(2.9)^{S}	2.9	(2.9)^{S}
3	2.9	(2.8)$^{F}_{S}$	(2.8)$^{F}_{S}$	2.7	(2.7)^{S}	2.9	2.8	3.3	(3.2)^{S}	3.3	3.1	3.0	3.0	2.9	2.9	2.9	3.0	3.0	3.1	3.1	2.9	(3.0)^{S}	(2.9)^{S}	(2.9)^{S}
4	2.9	2.9	2.8	2.9	(3.0)^{S}	2.9	(2.8)^{S}	3.3	3.1	3.2	3.0	(3.1)$^{S}_{P}$	3.0	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	3.0
5	2.9	2.9	2.9	2.9	(3.1)^{S}	2.8	2.9	3.3	3.3	3.3	(3.2)^{P}	2.9	2.9	3.0	3.0	3.0	3.0	(3.1)$^{S}_{P}$	(3.0)^{S}	3.0	3.0	2.8	2.9	2.8
6	2.7	2.6	2.7	2.9	2.8	2.7	(3.0)^{S}	3.1	3.3	3.0	3.2	3.1	3.0	2.9	2.9	3.0	3.0	3.1	3.0	2.8	2.9	2.8	2.8	2.8
7	2.7	2.6	2.5^{F}	(2.6)$^{S}_{F}$	2.4$^{F}_{K}$	^{K}(2.4)$^{S}_{F}$	^{K}(3.1)$^{F}_{F}$	2.9$^{F}_{K}$	2.8^{K}	2.9^{K}	2.7^{K}	2.8^{K}	2.8^{K}	3.0^{K}	2.8^{K}	2.9^{K}	2.9^{K}	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	3.3	3.1	3.1	2.9	3.0	(3.0)^{S}	(3.0)^{S}	2.9	(3.0)$^{F}_{S}$	(3.1)^{S}	(2.9)^{S}	(2.9)$^{F}_{S}$	(2.8)$^{F}_{S}$	(2.6)^{S}	2.6
9	2.7	(2.7)^{S}	(2.7)^{S}	2.9^{F}	2.8	(2.7)$^{F}_{S}$	2.7	3.0	(3.2)^{S}	3.2	3.0	2.9	3.0	2.9	(2.9)^{S}	2.9	2.9	3.0	3.0	(2.9)^{S}	(2.9)^{S}	2.8	2.8	2.8
10	2.7	(2.6)$^{F}_{F}$	2.7	2.9^{F}	2.8^{F}	2.9^{F}	2.9^{F}	3.3	3.2	3.2	(3.0)^{F}	2.9	3.0	(2.9)^{F}	2.9	(2.9)^{S}	2.9	2.9	(2.8)$^{F}_{S}$	3.0	2.7	(2.8)$^{S}_{P}$	2.8	2.7
11	2.8^{F}	C	2.8^{F}	2.9^{F}	2.8^{F}	2.9^{F}	3.0^{F}	3.3	3.1	3.1	3.1	2.9	2.9	2.8	2.9	2.8	2.8	2.9	3.0	2.9	2.8	2.7	2.7	2.7^{F}
12	(2.7)$^{F}_{F}$	2.8^{F}	(2.8)^{F}	2.8^{F}	2.9^{F}	2.8^{F}	(2.8)$^{F}_{F}$	3.1^{F}	3.2	3.1	2.8	2.8	2.8	2.7	2.8	2.7	2.7	2.8	(2.8)^{S}	2.9	2.8	2.8	2.9	2.8
13	2.7	2.8	2.7	2.8	2.8	2.8	3.0	3.1	3.3	3.1	2.9	3.0	2.9	2.8	2.7	2.7	2.8	2.8	(2.8)^{S}	(2.9)$^{S}_{F}$	2.9	(2.9)^{S}	2.8	2.7
14	C	C	C	C	C	C	C	C	C	(3.0)$^{F}_{S}$	C	C	2.8	2.8	2.7	2.7	2.8	2.8	2.9	2.9	2.8^{F}	2.7	C	C
15	C	C	C	C	C	C	C	C	C	3.0*	2.8	2.9	2.9	2.8	2.8	2.8	2.8	2.9	(2.8)$^{F}_{S}$	2.8	2.9	2.7	(2.7)$^{F}_{S}$	2.6
16	2.6	(2.5)^{S}	(2.5)^{S}	2.5	2.5	2.6	2.9^{F}	3.2^{F}	3.0	3.0	3.0	2.9	2.9	2.7	2.8	2.8	2.9	2.9	(3.0)$^{F}_{S}$	2.8	2.8	(2.8)^{S}	2.8	(2.9)^{S}
17	(2.7)^{S}	(2.7)$^{F}_{S}$	(2.7)$^{F}_{S}$	(2.7)^{F}	2.7^{F}	(2.6)$^{S}_{F}$	3.1^{F}	3.1^{F}	3.1^{F}	3.0	2.9	2.8	2.9^{F}	T	2.8	2.9	2.9	2.9	2.9	2.9^{F}	(3.0)$^{S}_{F}$	(2.8)$^{S}_{F}$	(2.9)$^{S}_{F}$	(2.8)$^{S}_{F}$
18	(2.7)$^{S}_{F}$	(2.7)^{F}	2.7^{F}	2.6^{F}	2.5^{F}	(2.6)$^{F}_{F}$	2.9^{F}	3.2^{F}	(3.3)^{S}	3.0^{F}	3.0	3.0	2.9	2.9	(2.9)^{F}	2.9	3.0	2.9	(3.0)$^{F}_{S}$	(2.8)$^{S}_{F}$	2.8^{F}	2.9^{F}	(2.9)$^{S}_{F}$	(2.8)$^{S}_{F}$
19	(2.8)$^{F}_{F}$	C^{K}	C^{K}	2.5^{K}	(2.4)$^{F}_{K}$	(2.4)$^{F}_{K}$	(2.3)$^{F}_{K}$	3.2^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	G^{K}	2.6^{K}	2.7^{K}	2.4$^{F}_{K}$	^{K}(2.4)$^{S}_{F}$	^{K}(2.7)$^{S}_{F}$	^{K}(2.7)$^{S}_{F}$	2.6$^{F}_{K}$
20	2.5$^{F}_{K}$	C^{K}	C^{K}	C^{K}	C^{K}	2.7$^{F}_{K}$	2.4^{F}	(3.2)$^{F}_{S}$	3.2	T	2.9	2.9	2.8	2.7	2.7	2.7	2.9	(2.9)^{S}	(3.0)^{S}	(2.9)^{S}	(2.8)$^{F}_{S}$	(2.7)^{S}	2.7	(2.7)^{S}
21	(2.8)$^{F}_{F}$	(2.5)^{F}	(2.6)$^{F}_{F}$	(2.7)^{F}	(3.0)^{F}	2.6	(2.7)^{S}	3.2^{F}	(3.2)$^{S}_{F}$	3.1	2.9	2.8	2.8	2.8	2.8	(2.8)^{S}	2.8	(2.7)$^{S}_{F}$	(2.8)^{S}	(2.9)^{S}	(2.7)$^{F}_{S}$	(2.6)^{S}	(2.6)$^{F}_{S}$	(2.5)^{S}
22	(2.4)$^{S}_{F}$	(2.7)$^{S}_{F}$	(2.5)$^{S}_{F}$	(2.7)$^{S}_{F}$	(2.8)$^{S}_{F}$	5^{F}	(3.0)$^{S}_{F}$	(3.2)^{S}	3.0	(2.9)^{S}	2.9	2.9	2.9	2.8	M	2.9	2.8	(2.9)^{S}	(3.0)$^{F}_{S}$	2.9	(2.7)^{S}	(2.8)$^{F}_{S}$	(2.8)^{S}	(2.8)^{S}
23	(2.9)^{S}	(2.9)^{S}	(2.8)$^{S}_{F}$	(2.7)$^{S}_{F}$	(2.8)$^{S}_{F}$	(2.8)$^{S}_{F}$	2.9^{F}	(3.2)$^{F}_{F}$	3.1^{F}	M	M	M	M	2.9	2.9	3.0	2.9	(3.0)^{S}	3.0	(2.9)^{S}	(2.8)$^{S}_{F}$	(2.6)$^{S}_{F}$	(2.5)$^{F}_{F}$	(2.5)$^{S}_{F}$
24	(2.5)$^{S}_{F}$	(2.6)$^{S}_{F}$	(2.5)$^{F}_{F}$	(2.5)$^{F}_{F}$	(2.2)$^{S}_{F}$	(2.5)$^{S}_{F}$	2.7^{F}	(3.0)$^{F}_{K}$	^{K}(2.6)$^{S}_{F}$	(2.7)$^{R}_{K}$	2.6^{K}	2.7^{K}	2.6^{K}	2.5^{K}	^{K}(2.6)$^{F}_{S}$	2.7^{K}	2.9^{K}	(2.9)$^{S}_{K}$	(3.0)$^{S}_{K}$	^{K}(2.8)$^{F}_{F}$	(2.8)$^{S}_{K}$	2.7^{K}	(2.5)$^{S}_{K}$	(2.6)$^{S}_{K}$
25	^{K}(2.8)$^{S}_{F}$	2.6$^{F}_{K}$	(2.3)$^{S}_{K}$	(2.4)$^{S}_{K}$	^{K}(2.5)$^{S}_{F}$	^{K}(2.6)$^{F}_{S}$	(2.7)$^{S}_{K}$	2.9^{K}	(2.9)$^{F}_{K}$	2.8^{K}	(2.8)$^{S}_{K}$	2.9^{K}	2.8^{K}	2.9^{K}	2.9^{K}	2.8^{K}	2.9^{K}	2.8^{K}	(2.9)$^{S}_{K}$	(2.9)$^{S}_{K}$	(2.8)$^{S}_{K}$	(2.9)$^{S}_{K}$	(2.6)$^{S}_{K}$	2.6^{K}
26	(2.5)^{S}	2.6	(2.7)^{S}	(2.8)$^{F}_{S}$	2.8	2.7	(2.8)^{S}	3.0^{V}	3.1	3.0	3.2	2.8^{Z}	2.9	2.8	2.8	2.8	2.9	(3.0)^{S}	(2.9)^{S}	(2.8)^{S}	(2.7)^{S}	(2.6)^{S}	(2.6)$^{S}_{J}$	(2.5)$^{F}_{S}$
27	(2.5)$^{S}_{S}$	2.4	(2.6)^{S}	(2.7)^{S}	(2.5)^{S}	2.7	2.8	2.8	3.0	2.9	2.8^{V}	2.8	2.5	(2.6)^{Z}	2.7	2.7	2.7	2.8	(2.9)^{S}	(2.8)^{S}	(2.7)$^{F}_{S}$	(2.7)^{S}	2.7	(2.6)$^{F}_{S}$
28	□(2.5)	□(2.6)	□(2.7)	□(2.7)$^{S}_{F}$	□(2.7)^{F}	□(2.7)$^{S}_{F}$	□(3.3)^{F}	□(3.2)^{S}	□(3.2)	3.0	2.9	(2.9)^{F}	2.8	C	2.8	2.8	2.9	(2.9)$^{F}_{S}$	(3.0)^{S}	(2.9)^{S}	(2.8)^{S}	(2.8)^{S}	(2.8)^{S}	(2.6)$^{S}_{F}$
29	(2.6)$^{S}_{F}$	(2.7)$^{S}_{F}$	(2.7)$^{F}_{F}$	2.8^{F}	2.7^{F}	2.6^{F}	(3.0)^{F}	(3.2)^{S}	3.1	3.0	3.0	2.9	2.8	2.7	M	2.8	2.8	(2.9)^{S}	3.0	(2.8)^{S}	(2.8)$^{F}_{S}$	(2.8)^{S}	2.7	2.6
30	(2.7)^{S}	(2.6)^{S}	2.6	(2.7)$^{S}_{F}$	2.7^{F}	(2.9)$^{F}_{F}$	2.9^{F}	3.2^{F}	3.1^{F}	3.0	2.8	2.8	2.8	2.9	2.8	2.9	3.0	(2.9)^{S}	(3.0)^{S}	(2.9)^{S}	(2.9)^{S}	(2.7)^{S}	(2.8)$^{S}_{F}$	(2.6)$^{S}_{F}$
31	2.6^{F}	2.6^{F}	2.6^{F}	2.6^{F}	2.4^{F}	2.5^{F}	3.0^{F}	3.1^{F}	3.0^{Z}	2.9^{F}	2.8	2.7	2.6	2.5	2.6	2.7	2.7	2.7	2.8	(2.7)^{S}	2.7	(2.6)^{S}	2.6	2.7^{F}
Median	2.7	(2.7)	2.7	2.7	2.7	2.7	2.9	3.2	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.8	2.9	2.9	(3.0)	(2.9)	(2.8)	(2.8)	2.8	2.7
Count	28	25	26	27	27	27	28	28	27	28	28	28	29	28	27	29	31	30	30	30	30	30	29	29

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

TABLE 46

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F1 (Characteristic), — (Unit), March (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

Calculated by: By H. – J.W.

75°W Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q	Q	Q	Q	Q	Q	Q	M	M	Q	Q	Q					
2								Q	Q	Q	L	Q	L	Q	Q	Q	Q	Q	Q					
3								Q	Q	Q	Q	L	Q	L	L	L	Q	Q	Q					
4								Q	Q	Q	L	L	L	L	Q	L	Q	Q	Q					
5								Q	Q	L	L	L	L	(3.7)^{P}	L	L	L	Q	Q					
6								Q	Q	Q	3.7^{H}	4.0^{H}	3.7	L	L	L	Q	Q	Q					
7								Q^{K}	Q^{K}	3.3^{K}	L^{K}	3.5^{K}	3.5^{K}	L^{K}	L^{K}	L^{K}	Q^{K}	C	C					
8								C	C	Q	L	L	L	L	L	Q	Q	Q	Q					
9								Q	Q	L	Q	Q	Q	L	L	Q	Q	Q	Q					
10								Q	Q	Q	Q	Q	L	(3.7)^{P}	L	L	Q	Q	Q					
11								Q	Q	Q	L	L	Q	Q	Q	Q	Q	Q	Q					
12								Q	Q	Q	Q	L	Q	Q	3.7	Q	Q	Q	Q					
13								Q	Q	Q	Q	L	L	L	Q	L	Q	Q	Q					
14								C	C	L	C	C	Q	Q	L	Q	Q	Q	Q					
15								C	C	L*	L	L	L	L	L	L	Q	Q	Q					
16								Q	Q	L	L	L	Q	L	Q	Q	Q	Q	Q					
17								Q	Q	Q	L	L	Q	T	Q	L	Q	Q	Q					
18								Q	L	L	L	L	C	L	L	L	L	Q	Q					
19								3.4^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	2.7^{K}	(3.0)$^{K}_{P}$	Q^{K}					
20								Q	Q	T	L	(3.7)^{P}	3.6	3.3	L	L	L	Q	Q					
21								Q	Q	L	L	B	L	Q	L	Q	B	Q	Q					
22								Q	Q	Q	Q	L	L	L	M	(3.7)^{P}	Q	Q	Q					
23								Q	Q	M	M	M	M	L	L	Q	Q	Q	Q					
24								Q^{K}	Q^{K}	Q^{K}	3.6^{K}	3.4^{K}	(3.5)$^{K}_{S}$	3.5^{K}	3.2^{K}	3.2^{K}	L^{K}	L^{K}	Q^{K}					
25								Q^{K}	L^{K}	(3.4)$^{K}_{P}$	3.5^{K}	(3.4)$^{K}_{P}$	4.0^{K}	(3.4)$^{P}_{K}$	(3.5)$^{K}_{P}$	L^{K}	L^{K}	Q^{K}	Q^{K}					
26								Q	L	Q	L	(3.4)^{P}	(3.5)^{P}	3.8	L	L	L	Q	Q					
27								Q	L	(4.0)$_{P}$	N	3.7	L	3.2	3.5	L	L	Q	Q					
28								Q□	Q□	L	L	Q	L	C	3.8	L	Q	Q	Q					
29								Q	Q	Q	L	L	L	L	M	L	Q	Q	Q					
30								Q	L	L	(3.6)^{P}	3.3	(3.4)^{P}	L	L	Q	Q	Q	Q					
31								Q	L	Q	L	Q	L	L	L	(3.5)^{P}	L	Q	Q					
Median								—	—	—	—	3.4	3.5	3.5	3.5	—	—	—						
Count								1		3	4	8	7	7	5	3	1	1						

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

TABLE 47

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M1500)E (Characteristic), (Unit), March (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Lang 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., J.S.

Calculated by: By H. - J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								41	42	41	42	40	(45)B	43	M	M	42	A						
2									41	39	41	B	(43)B	43	42	43	43	(41)B						
3								36	40	40	39	41	B	B	B	(42)S	42	40						
4									36	39	(38)F	39	39	40	S	41	38	41						
5								42	(40)S	38	39	B	B	(41)S	(41)S	41	(41)A	41						
6								39	42	43	45	44	B	B	B	B	40	42						
7								AK	AK	BK	44K	BK	BK	(42)KB	41K	41K	41K	C						
8									C	43	40	40	B	40	40	40	43	(40)S	S					
9								42	42	43	(42)B	42	43	41	41	42	41	42						
10								39	41	41	40	B	41	43	43	41	39	42	37					
11								40	A	40	42	41	B	B	43	40	42	40	39					
12								39	41	42	40	43	42	41	41	41	38	40	32					
13								40	(42)A	41	41	40	43	40	41	41	40	42	(43)S					
14								C	C	42	C	C	44	B	42	43	43	42	44					
15								C	C	42*	41	43	42	41	44	41	42	40	39					
16								37	40	39	39	40	38	38	S	42	(41)B	B	(41)B					
17								43	43	B	B	B	B	T	41	41	41	43	(44)S					
18								41	44	(43)B	B	40	C	C	C	C	B	B	B					
19								42K	CK	CK	CK	CK	CK	CK	CK	CK	41K	42K	SK					
20									42	T	44	(44)P	43	43	42	41	43	39	39					
21								41	41	38	42	B	(42)P	(40)B	42	40	B	B	41					
22								44	42	44	A	42	41	41	M	41	43	39	S					
23								39	43	M	M	M	M	43	41	42	41	40	S					
24								41K	40K	44	44K	AK	41K	(41)KP	41K	40K	40K	40K	35K					
25								(39)KP	(41)KP	(41)KA	AK	42K	BK	40	41K	39K	40K	40K	41K					
26								43	44	46	A	A	43	B	41	40	39	40	37					
27								(37)P	42	41	B	B	B	B	(41)B	B	39	40	(41)S					
28								(45)□	(42)□	43	B	B	B	C	B	42	44	41	(45)S					
29								(38)P	B	42	45	41	42	(41)P	M	41	41	42	40					
30								42	40	42	43	46	B	40	42	42	41	42	36					
31								38	41	42	41	40	40	40	(41)P	40	40	39	(42)B					
Median								40	42	42	41	41	42	41	41	41	41	40	40					
Count								24	24	26	21	18	17	21	21	26	29	26	18					

* DATA FROM STERLING FIELD STATION

□ TIME OF OBSERVATION DOUBTFUL

Sweep 1.0 Mc to 25.0 Mc in 0.5 min

Manual □ Automatic ☒

Table 48

Ionospheric Storminess at Washington, D. C.

March 1950

Day	Ionospheric character* 00-12 GCT	12-24 GCT	Principal storms Beginning GCT	End GCT	Geomagnetic character** 00-12 GCT	12-24 GCT
1	1	2			3	1
2	2	2			3	2
3	2	2			2	1
4	1	2			1	2
5	1	3			2	2
6	1	3			3	2
7	1	4	0900	##	4	2
8	***	2			2	2
9	1	1			3	1
10	1	1			2	1
11	1	2			0	1
12	1	0			1	2
13	1	1			1	2
14	***	1			3	3
15	***	3			4	2
16	2	1			2	1
17	1	2			2	2
18	2	1			2	1
19	4	#	0600	----	5	5
20	4	3	----	1100	1	2
21	2	2			3	3
22	3	3			4	3
23	1	1			2	2
24	3	6	1200	----	4	2
25	4	4	----	----	3	2
26	4	3	----	0500	1	2
27	2	3			4	4
28	2	1			3	1
29	2	1			3	2
30	2	2			3	1
31	2	1			2	4

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

----Dashes indicate continuing storm.

***No readable record. Refer to table 37 for detailed explanation.

#No I-figure owing to insufficient data. Conditions probably severely disturbed.

##Time of ending unknown because of lack of record.

Table 49

Sudden Ionosphere Disturbances Observed at Washington, D. C.

March 1950

1950 Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
March 5	1612	1655	Ohio, D. C., England	0.1	Solar flare*** 1608
8	2159	2210	Ohio, D. C.	0.2	
9	2040	2110	D. C.	0.1	Solar flare*** 2036
10	1551	1620	D. C.	0.1	Solar flare*** 1549
12	1420	1500	Ohio, D. C., England	0.1	
12	1928	1955	Ohio, D. C., England	0.1	Terr.mag.pulse** 1930-1945
16	1830	1950	Ohio	0.03	Solar flare*** 1840
19	1410	1705	Ohio, D. C.	0.03	
21	1510	1550	Ohio, D. C.	0.0	
21	2029	2220	Ohio, D. C., England	0.0	Terr.mag.pulse** 2015-2050

*Ratio of received field intensity during SID to average field intensity before and after, for station KQ2XAU (formerly W8XAL), 6080 kilocycles, 600 kilometers distant, for all SID except the following: Station WWI, 2061 kilocycles, received at Ft. Belvoir, Virginia, 35 kilometers distant, was used for the SID on March 9 and 10.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

***Time of observation at the High Altitude Observatory, Boulder, Colorado.

Table 50

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in England

1950 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters	Other phenomena
February					
14	1730	1830	Brentwood	Barbados, Chile, Colombia, Uruguay, Venezuela	Solar flare* 1715
15	0630	0800	Brentwood	Afghanistan, Bahrein I., Eritrea, India, Iran, Kenya, Southern Rhodesia, Switzerland, Trans-Jordan	
20	1527	1550	Brentwood	Austria, Barbados, Belgian Congo, Canary Is., Chile, Colombia, Spain, Switzerland, Trans-Jordan, Uruguay, Venezuela	
20	1524	1545	Somerton	Argentina, Brazil, Canada, China, Gold Coast, New York, Union of S. Africa	
21	1010	1040	Brentwood	Bahrein I., Barbados, Belgian Congo, Bulgaria, Canary Is., Greece, India, Iran, Kenya, Malta, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Trans-Jordan, Turkey, U.S.S.R., Yugoslavia, Zanzibar	
21	1010	1040	Somerton	Aden, Argentina, Australia, Brazil, Canada, Ceylon, Egypt, Gold Coast, India, New York, Union of S. Africa	
21	2005	***	Brentwood	Chile, Colombia, Venezuela	
22	1015	1045	Brentwood	Belgian Congo, Greece, Iran, Portugal, Southern Rhodesia, Spain, Switzerland, Zanzibar	
23	0715	0735	Brentwood	Afghanistan, India, Iran, Kenya, Southern Rhodesia, Syria, Trans-Jordan	Solar flare** 0712
23	0724	0735	Somerton	Aden, Ceylon, China, India, Union of S. Africa	Solar flare** 0712
23	1200	1440	Somerton	Canada, New York	

*Time of observation at the High Altitude Observatory, Boulder, Colorado.
**Time of observation at Wendelstein Observatory, Germany.
***Incomplete recovery of SID.

Table 51

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed at Colombo, Ceylon

1950 Day	GCT Beginning	GCT End	Location of transmitters
January 20	1105	1130	England

Table 52

Sudden Ionosphere Disturbances Reported by International Telephone and Telegraph Corporation, as Observed at Platanos, Argentina

1950 Day	GCT Beginning	GCT End	Location of transmitters	Other phenomena
February 13	1916	2005	Bolivia, Brazil, Chile, Cuba, Denmark, Italy, New York, Peru, Spain, Switzerland, Venezuela	Terr.mag.pulse* 1915-1930 Solar flare** 1910
18	1400	1430	Bolivia, Brazil, Cuba, Denmark, Germany, New York, Peru, Switzerland, Venezuela	
20	1525	1555	Bolivia, Brazil, Cuba, Denmark, Germany, New York, Peru, Venezuela	

*As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

**Time of observation at the High Altitude Observatory, Boulder, Colorado.

Table 53

Sudden Ionosphere Disturbances Reported by RCA Communications, Inc.,

as Observed at Point Reyes, California

1950 Day	GCT Beginning	GCT End	Location of transmitters
March 8	0440	0510	French Indo-China, Java, Philippine Is.

Table 54

Sudden Ionosphere Disturbances Reported by Technical Supervisor,

Mackay Radio and Telegraph Company, Inc.,

as Observed in New York

1950 Day	GCT Beginning	GCT End	Location of transmitters	Other phenomena
February 13	1913	1950	Africa, Asia, Central America, Europe, South America	Terr.mag.pulse* 1915-1930 Solar flare** 1910
20	1520	1545	Africa, Asia, Central America, Europe, South America	

*As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

**Time of observation at the High Altitude Observatory, Boulder, Colorado.

Table 55

Sudden Ionosphere Disturbances Reported by Institut für Ionosphärenforschung, as Observed at Lindau, Harz, Germany

Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
February 1950					
18	1038	1058	Munchen**, Berlin***, Lindau#	0.12	
18	1355	1420	Munchen**, Berlin***, Lindau#	0.11	
19	1402	1422	Munchen**	0.17	
20	1230	1255	Munchen**, Berlin***	0.05	
20	1520	1528	Munchen**, Berlin***	0.02	Terr.mag.pulse## 1520-1535
21	1008	1040	Munchen**, Berlin***, Lindau#	0.012	Terr.mag.pulse## 1013-1030
23	0720	0735	Munchen**, Berlin***, Lindau#	0.09	

*Ratio of received field intensity during SID to average field intensity before and after, for station Voice of America, 6078.9 kilocycles, 400 km distant.

**Station Voice of America, 6078.9 kilocycles.

***Station DAB, 3840 kilocycles, 200 km distant.

#Lindau station, 1780 kilocycles, pulse, transmitter and receiver at Lindau.

##As observed at Lindau.

Table 56

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in Barbados, B.W.I.

1950 Day	GCT Beginning	GCT End	Location of transmitters	Other phenomena
February				
2	0620	0830	Australia	
13	1920	1945	British Guiana, Canada, England	Terr.mag.pulse* 1915-1930 Solar flare** 1910
14	1720	1840	Windward Is.	Solar flare** 1715
15	0635	0735	Australia	
17	0120	0300	Australia	
20	1520	1600	British Guiana, Canada, England, Jamaica, West Indies	
21-22	2345	0345	Australia	

*As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

**Time of observation at the High Altitude Observatory, Boulder, Colorado.

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 57

Provisional Radio Propagation Quality Figures
(Including Comparisons with CRPL Warnings and Forecasts)
February 1950

Day	North Atlantic quality figure Half day GCT (1)	(2)	CRPL* Warning Half day GCT (1)	(2)	CRPL Forecasts (J-reports)	North Pacific quality figure Half day GCT (1)	(2)	Geomagnetic K_{Ch} Half day GCT (1)	(2)
1	6	6				6	7	2	1
2	(3)	5		W		5	5	(4)	3
3	5	5	U			6	5	3	3
4	(4)	5	U	U		6	5	2	3
5	6	6	U			6	6	2	1
6	6	6				6	7	2	2
7	5	6	U			7	7	3	3
8	5	6				6	7	3	2
9	5	6				5	6	2	2
10	6	6				6	7	1	1
11	6	7				6	7	2	1
12	6	7				6	7	1	2
13	6	6				6	7	1	1
14	7	6				6	7	1	2
15	7	6				6	8	2	2
16	7	7				7	7	1	1
17	7	7				6	6	1	1
18	7	7				6	7	0	2
19	7	7			X	7	7	2	2
20	7	(4)		W	X	7	6	2	(5)
21	(3)	5	W	W	X	5	5	(5)	(4)
22	6	5	W	W	X	5	5	(4)	3
23	5	(4)	W	W		5	(4)	3	(5)
24	(4)	6	W	U		5	5	(5)	2
25	5	6	U		X	5	6	3	2
26	7	7				6	6	1	0
27	7	7				6	7	1	2
28	7	6				6	7	3	3

Score:	Warning N.A.	N.P.	Forecast N.A.	N.P.
H	9	4	2	0
(M)	0	0	0	0
M	1	0	4	1
G	39	40	42	45
O	7	12	8	10

*Broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half day as broadcast. ( ) broadcast for one-quarter day. Blanks signify N.

Scales:
Quality Figures
(1)- Useless
(2)- Very poor
(3)- Poor
(4)- Poor to fair
5 - Fair
6 - Fair to good
7 - Good
8 - Very good
9 - Excellent

Geomagnetic K_{Ch} - 0 to 9, 9 representing the greatest disturbance; $K_{Ch} \geq 4$ indicates significant disturbance, enclosed in ( ) for emphasis.

Symbols:
W Disturbed conditions expected

U Unstable conditions expected

N No disturbance expected

X Probable disturbed date

Scoring:
H Storm ($Q < 4$) hit

(M) Storm severer than predicted

M Storm missed

G Good day forecast

O Overwarning

Scoring by half day according to following table:

	Quality Figure ≤3	4	5	≥6
W	H	H	O	O
U	(M)	H	H	O
N	M	M	G	G
X	H	H	O	O

Table 58

American and Zürich Provisional Relative Sunspot Numbers

March 1950

Date	R_A*	R_Z**	Date	R_A*	R_Z**
1	102	88	17	128	100
2	88	62	18	105	108
3	120	83	19	113	101
4	171	128	20	111	90
5	189	134	21	95	80
6	182	148	22	79	70
7	226	184	23	77	76
8	231	187	24	88	72
9	192	163	25	112	73
10	176	150	26	89	80
11	181	156	27	92	73
12	165	128	28	104	69
13	153	124	29	139	97
14	160	133	30	111	100
15	160	130	31	94	78
16	139	110	Mean:	134.6	108.9

*Combination of reports from 44 observers; see page 8.

**Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 59a

Coronal observations at Climax, Colorado (5303A), east limb

Date GCT	Degrees north of the solar equator																				0°	Degrees south of the solar equator																		
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90				
1950																																									
Mar. 1.7	-	-	-	-	-	-	-	-	-	-	3	7	16	17	22	31	38	38	31		23	18	20	26	18	12	6	3	1	-	-	-	-	-	-	2	1	1				
4.9	-	-	-	-	-	-	-	-	-	-	3	4	8	11	18	21	20	16	13		11	12	15	14	13	12	11	9	5	2	2	-	-	-	-	-	-	-				
5.6	2	1	-	-	1	2	1	1	2	4	4	4	5	17	23	22	21	18	16		13	15	18	17	14	14	14	10	7	4	3	4	3	3	2	2	3	2				
11.0a	X	X	X	X	X	X	X	X	X	X	X	X	3	3	2	3	5	7	6		7	5	4	3	2	2	1	-	-	2	-	-	-	X	X	X	X	X				
13.7a	-	-	-	-	-	-	-	-	-	-	3	2	3	7	8	9	10	8	6		3	4	5	4	4	2	2	2	2	-	-	-	-	-	-	-	-	-				
16.7	2	3	3	4	4	3	3	4	6	8	10	11	12	14	22	19	15	17	16		14	13	9	5	5	9	9	9	8	4	5	5	6	7	5	3	1	-				
17.9	2	1	2	2	3	3	X	X	X	X	X	X	8	13	13	14	13	13	13		11	10	8	11	9	7	10	9	5	2	3	4	4	3	X	X	X	X				
23.7	2	2	2	2	2	2	2	4	4	4	5	8	8	11	13	12	11	10	9		8	7	11	10	4	2	3	1	1	2	2	1	1	-	-	-	-	-				
29.7a	2	-	-	-	-	-	2	2	3	6	8	12	13	14	15	16	14	14	11		8	8	8	7	6	8	9	8	4	3	3	-	-	-	-	-	-	-				

Table 60a

Coronal observations at Climax, Colorado (6374A), east limb

Date GCT	Degrees north of the solar equator																				0°	Degrees south of the solar equator																		
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90				
1950																																									
Mar. 1.7	-	-	-	3	3	4	4	4	1	1	-	-	-	1	1	2	4	23	23		9	5	1	2	2	3	4	3	3	3	4	3	3	2	1	1	1	1				
4.9	1	2	2	2	2	3	2	1	-	-	-	-	-	-	13	10	3	5	7		-	3	8	13	8	3	-	-	3	4	4	-	-	-	-	-	-	-				
5.6	2	2	2	2	2	2	2	2	2	3	3	1	1	3	19	11	13	8	11		2	5	10	10	9	5	2	2	4	2	2	1	1	1	2	1	1	2				
11.0a	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	2	2	3		2	-	-	-	-	-	-	2	2	-	-	-	-	-	X	X	X	X				
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	4	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	9	4	3		3	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-				
17.9	-	2	2	-	-	-	X	X	X	X	X	X	-	-	-	2	3	10	8		-	-	-	5	1	-	-	-	2	2	-	-	-	-	X	X	X	X				
23.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-		-	-	9	2	-	-	-	-	-	-	-	-	-	-	-	-	-				
29.7a	3	3	3	2	2	-	-	-	-	-	-	11	-	13	-	5	7	6	7		-	2	1	2	2	4	3	1	2	1	1	1	1	2	2	1	-	-				

Table 61a

Coronal observations at Climax, Colorado (6704A), east limb

Date GCT	Degrees north of the solar equator																				0°	Degrees south of the solar equator																		
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90				
1950																																									
Mar. 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	3	2	1	2	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-				
4.9	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	1	-		-	-	2	2	1	1	-	1	1	-	-	1	1	-	-	2	1	1				
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2	1	1	1		1	2	2	2	2	1	2	1	-	-	-	-	-		-	-	-	-				
11.0a	X	X	X	X	X	X	X	X	X	X	X	X	X	-	2	3	3	2	1		1	1	1	3	3	1	1	2	1	1	-	-	1	1	X	X	X	X				
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	5	3	5	2	2	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
16.7	-	-	1	-	-	-	-	-	-	-	-	1	2	2	5	4	2	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
17.9	-	-	-	-	-	-	-	X	X	X	X	X	2	2	2	2	2	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X				
23.7	-	-	-	-	1	1	1	1	1	2	2	2	1	2	2	2	2	2	2		2	2	2	2	1	1	1	2	2	2	1	-	-	2	2	2	-	-				
29.7a	-	-	-	-	-	-	-	-	-	-	2	2	2	3	3	3	-	2	2		2	2	-	2	-	2	2	2	-	-	-	-	-	-	-	-	-	-				

Table 59b

Coronal observations at Climax, Colorado (5303A), west limb

Date GCT	Degrees south of the solar equator																			0°	Degrees north of the solar equator																
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Mar. 1.7	1	2	3	3	6	8	9	9	9	9	9	10	11	14	13	14	14	15	16		23	34	23	26	21	19	12	9	10	10	8	6	6	7	6	3	-	-
4.9	-	-	-	1	1	2	4	4	3	5	9	3	5	8	9	12	13	14	12		13	15	15	16	20	17	12	13	10	9	7	3	2	3	4	3	1	-
5.6	2	2	2	2	2	5	4	3	4	11	12	9	12	13	18	20	17	13	13		14	15	15	16	26	20	17	17	15	12	12	10	8	4	5	3	3	2
11.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	5	12	19	13	13	13	17	18	15	14	16	14	14	14	10	7	6	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	3	8	12	14	14	13	12	12		12	12	13	14	15	15	15	12	3	-	-	-	-	-	-	3	3	2
17.9	X	X	X	-	-	-	-	2	2	3	4	8	8	12	16	17	14	10	11		11	14	14	19	18	15	13	6	-	3	1	2	-	-	1	-	3	2
23.7	-	-	-	-	2	4	3	4	3	5	5	8	11	12	13	14	11	9	12		13	15	17	13	11	8	9	8	8	9	9	4	3	2	2	3	-	2
29.7	-	2	3	3	3	5	6	7	6	4	5	6	5	8	10	10	12	12	13		13	14	15	16	26	17	14	11	10	10	8	5	3	3	2	2	3	2

Note: Observation low weight: Mar. 1.7 at N 15°.

Table 60b

Coronal observations at Climax, Colorado (6374A), west limb

Date GCT	Degrees south of the solar equator																			0°	Degrees north of the solar equator																
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Mar. 1.7	1	1	1	1	-	-	-	-	1	1	-	-	1	3	4	2	5	9	13		13	14	21	30	14	8	3	2	1	1	1	2	1	1	2	-	-	-
4.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	8	6	7		13	16	20	4	3	2	1	2	1	-	1	1	1	4	1	2	1	1
5.6	2	3	2	1	1	1	2	1	2	1	1	-	-	-	-	13	6	3	3		15	13	3	2	2	-	-	-	-	-	-	-	-	4	3	-	2	2	2
11.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	-	-	6	4		9	-	-	-	8	2	2	4	5	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	2	3	7	8	11	-	3	5		10	6	14	19	13	12	11	4	2	3	-	-	-	-	-	-	-	-
17.9	X	X	X	X	-	5	2	-	-	2	2	2	12	4	14	10	5	6	4		3	3	2	10	10	4	3	4	3	2	-	-	1	1	-	-	-	-
23.7	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-		-	4	13	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	6	6	7		5	7	2	1	2	-	-	2	-	-	-	1	2	3	4	3	4	3

Table 61b

Coronal observations at Climax, Colorado (6704A), west limb

Date GCT	Degrees south of the solar equator																			0°	Degrees north of the solar equator																
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Mar. 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	2		3	3	4	6	7	3	2	2	1	1	-	-	-	-	-	-	-	-
4.9	1	-	-	-	-	-	1	-	-	-	-	-	-	1	1	1	1	1	-		1	2	-	2	3	5	2	2	2	1	1	-	-	-	-	2	-	-
5.6	-	-	-	-	-	1	1	1	1	1	-	1	-	1	1	-	1	-	1		2	1	1	3	3	4	2	2	2	1	1	1	1	1	-	-	-	-
11.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	6	3	3		3	2	1	1	2	2	1	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	1	1	3	3	3	3	-	-	-	-	-	-	-	-	-	-
17.9	X	X	X	X	-	-	1	1	1	-	1	-	1	1	2	1	1	1	1		-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-
23.7	-	2	2	2	2	1	-	-	-	-	-	-	-	1	1	2	2	1	1		2	2	2	2	1	-	1	1	1	-	-	-	-	1	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	1	2	3	3	3	2	1	2	1	-	-	-	-	-	-	-	-

Table 62a

Coronal observations at Sacramento Peak, New Mexico (5303A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Feb. 1.7a	5	3	-	2	2	4	2	3	-	-	3	3	18	33	29	38	43	41	36	38	38	33	23	24	14	9	7	4	5	4	2	-	-	1	-	-	4
2.9a	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2	-	-	-	-	-
3.7a	3	2	-	2	-	3	-	-	-	-	-	9	18	30	37	42	44	38	41	40	33	20	22	19	15	12	9	5	5	3	2	2	1	3	4	-	-
4.7a	4	2	2	-	-	-	-	4	2	5	4	4	15	34	42	43	46	44	41	38	28	23	26	20	18	12	10	9	5	4	2	2	2	4	3	4	4
5.9a	-	2	3	3	3	-	3	3	3	3	3	5	11	19	30	42	40	35	32	26	25	21	18	14	11	8	10	6	6	-	-	-	4	4	5	4	3
6.8a	3	2	2	2	-	-	-	2	4	3	4	9	18	24	30	42	43	37	35	36	37	35	15	14	15	15	11	11	8	7	7	5	4	4	5	5	4
7.7a	3	2	3	1	1	-	3	-	4	8	3	10	20	30	29	39	39	34	29	23	35	40	15	20	18	16	12	9	6	5	4	5	3	4	5	5	4
8.9	1	1	1	1	-	-	1	2	5	7	5	13	13	10	12	18	31	19	15	16	20	21	16	13	10	8	7	8	6	6	4	5	4	3	3	3	2
14.9a	-	-	-	-	3	3	4	4	4	8	7	11	14	14	26	28	39	29	22	19	15	13	13	10	11	8	4	-	3	5	2	4	4	3	2	2	-
15.9	-	-	-	-	-	-	3	4	5	8	9	12	13	14	30	34	38	28	20	12	13	12	12	10	9	4	2	3	2	2	-	-	-	-	-	-	-
16.9	-	3	2	3	2	2	3	4	5	7	7	12	13	18	28	40	36	25	14	12	17	14	12	9	8	7	6	5	2	1	-	-	-	2	3	2	-
17.9	-	-	-	2	3	3	5	6	8	9	9	11	13	19	27	39	35	23	19	18	17	15	13	11	11	10	7	5	3	2	2	2	3	3	3	3	3
18.9	2	-	-	3	3	4	6	3	4	8	11	12	18	22	33	32	20	15	15	14	18	11	10	11	8	7	5	2	3	3	-	2	-	-	-	-	-
21.8	2	2	4	4	3	4	8	10	11	12	13	23	20	24	19	16	17	19	15	17	21	20	27	15	14	11	7	7	8	2	2	-	-	-	-	-	-
22.8	2	3	4	3	6	7	9	9	10	11	13	22	18	20	16	26	25	18	17	16	16	16	17	13	10	6	4	3	5	1	2	2	-	-	-	-	-
23.9	2	-	-	3	3	4	5	5	6	9	13	11	13	13	15	18	18	14	12	13	12	12	13	13	9	4	2	3	2	-	-	-	-	-	-	-	-
24.7	4	4	7	4	2	4	4	6	9	11	12	14	14	19	25	31	22	19	18	15	13	18	17	15	10	5	5	3	-	-	-	-	-	-	-	-	-
25.8	3	5	4	3	2	3	4	5	5	2	12	10	12	15	23	34	34	28	18	14	16	20	19	14	9	10	8	3	-	1	1	1	-	-	-	-	-
27.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	6	9	13	11	12	12	9	12	10	11	10	8	4	-	-	-	-	-	-	-	-	-	-	-
28.7	2	3	-	-	-	-	-	-	-	-	2	2	9	13	17	21	25	34	34	14	14	10	12	12	9	4	-	-	-	-	-	-	-	-	-	-	-

Note: Observation low weight: Feb. 21.8 at S55° - S65°; Feb. 28.7 at S05° - S70°.

Table 63a

Coronal observations at Sacramento Peak, New Mexico (6374A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Feb. 1.7a	11	8	8	5	8	10	11	11	11	5	8	10	7	8	-	10	22	12	4	9	13	3	3	4	3	3	4	6	5	7	6	7	3	3	4	3	2
2.9a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	5	5	3	4	3	2	
3.7a	9	4	5	10	9	5	8	8	6	3	5	5	4	8	14	13	15	27	5	5	10	-	8	13	3	4	4	-	5	5	6	10	7	5	5	5	5
4.7a	12	10	8	10	10	10	10	6	10	8	8	9	9	5	24	25	32	25	5	17	10	3	13	-	3	3	2	-	3	1	4	9	3	4	5	5	4
5.9a	10	10	10	11	9	10	10	9	9	9	9	9	9	8	32	34	14	20	8	11	3	4	5	8	6	4	4	2	3	-	3	7	7	4	4	5	4
6.8a	8	6	5	4	5	4	7	6	4	7	10	9	4	22	14	16	16	11	18	13	11	14	10	5	-	3	4	-	-	-	-	8	5	4	3	1	3
7.7a	8	9	8	6	10	9	5	9	9	5	4	10	4	11	5	18	16	8	6	14	22	4	5	3	1	-	-	-	-	3	3	4	4	3	3	3	
8.9	9	4	9	6	4	2	3	3	3	2	3	3	3	1	-	11	21	9	2	2	2	4	2	5	2	1	1	1	-	-	-	-	-	1	3	3	3
14.9a	-	3	5	5	2	3	-	3	2	1	-	2	-	3	3	5	14	7	5	3	4	3	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-
15.9	1	3	7	4	4	3	-	2	-	-	-	-	-	3	11	5	6	18	5	3	3	1	-	-	-	-	-	-	-	-	-	-	3	2	-	-	-
16.9	-	4	5	-	-	3	4	3	-	-	-	-	4	4	9	9	19	10	3	3	5	4	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
17.9	3	5	4	-	-	-	4	2	-	-	-	-	-	-	2	8	10	9	10	4	10	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.9	5	4	3	5	2	3	-	-	-	-	-	-	-	7	26	8	5		8	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.8	4	3	-	-	3	2	1	3	-	-	-	1	2	3	-	3	2	13	6	2	-	9	9	-	-	-	-	-	3	-	-	-	4	-	-	-	-
22.8	3	4	2	1	1	3	2	1	-	-	-	2	4	-	-	2	3	10	3	1	2	3	3	3	4	2	3	2	2	4	2	3	-	2	3	-	2
23.9	2	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4	5	-	-	1	4	3	-	4	2	3	-	-
24.7	4	-	3	1	3	5	1	2	-	4	-	-	-	-	-	5	10	2	-	-	-	10	4	4	7	5	2	-	4	2	3	3	4	2	-	1	-
25.8	5	4	3	4	4	3	2	3	3	5	2	1	3	2	1	5	8	6	-	-	-	14	2	10	9	6	4	3	3	2	2	3	1	2	2	1	-
27.9a	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	4	-	-	-	-	-	-	-	-	-	-	-
28.7	3	3	3	-	-	-	-	3	2	1	-	-	-	-	9	-	-	-	9	9	7	-	-	-	5	2	-	-	-	-	-	-	5	4	3	4	2

Note: Observation low weight: Feb. 21.8 at S55°- S65°; Feb. 22.8 at N65° - N70°; Feb. 24.7 at N65° - N75°; Feb. 25.8 at N65° - N75°; Feb. 28.7 at S05° - S65°.

Table 62b

Coronal obeervatione at Sacramento Peak, New Mexico (5303A), west limb

Date	Degrees south of the eolar equator																			0°	Degreee north of the solar equator																		
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																							
Feb. 1.7a	4	3	2	2	3	3	5	6	7	10	10	11	12	14	13	15	32	31	18	27	33	42	48	46	42	36	36	37	22	17	14	12	6	5	8	8	5
*2.9a	-	-	2	3	4	3	3	4	5	5	7	6	5	10	9	16	25	27	33	32	35	47	44	54	41	40	35	26	19	14	12	11	10	4	5	2	2
*3.7a	-	-	-	5	3	4	3	3	4	3	4	5	4	13	12	14	22	28	26	25	28	48	47	48	43	40	34	30	17	15	9	13	5	4	6	3	3
4.7a	4	6	6	4	6	3	5	4	5	11	13	14	19	23	28	32	36	36	35	42	44	53	60	57	53	52	49	51	49	44	41	32	15	9	8	6	4
5.9a	3	4	6	-	4	4	5	7	9	8	9	14	14	10	15	25	32	26	19	17	20	34	40	40	42	42	41	36	23	15	11	8	4	5	3	4	-
6.8a	4	3	-	-	-	3	5	5	5	6	12	12	10	13	15	18	37	30	26	17	13	17	36	41	43	39	38	37	25	17	13	7	4	5	3	3	3
7.7a	4	3	4	3	-	-	5	5	6	11	14	15	13	17	27	27	43	40	32	28	21	33	42	43	44	37	37	38	27	18	10	9	9	2	2	2	3
8.9	2	1	2	-	-	-	-	2	6	5	9	9	9	13	13	28	30	28	26	16	19	22	23	28	31	22	18	17	14	11	3	2	4	3	2	1	1
14.9	-	-	-	-	-	-	-	-	-	-	-	2	4	5	10	12	13	13	14	19	23	29	24	17	12	10	10	4	-	-	-	-	-	-	-	-	-	-
15.9	-	-	-	-	-	-	-	-	-	-	-	-	4	8	10	11	11	12	14	16	22	20	25	13	14	12	12	7	-	-	-	-	-	-	-	-	-	-
16.9	-	-	2	2	-	-	-	-	-	-	-	-	7	9	10	12	13	14	16	16	17	15	16	17	17	13	9	4	-	-	-	-	-	-	-	-	-	-
17.9	3	2	-	-	-	-	2	2	2	1	4	7	9	10	14	14	18	16	13	13	15	17	15	23	17	15	10	7	3	-	-	-	3	2	5	2	-
18.9	-	-	-	-	-	-	-	-	-	3	4	5	3	9	13	14	15	14	13	11	13	13	16	19	15	10	6	2	-	-	-	-	2	3	2	4	2
21.8	-	-	1	-	3	2	4	4	4	5	6	9	10	13	20	27	30	31	28	13	14	18	20	22	16	13	12	11	10	7	8	5	3	4	2	2	2
22.8	-	2	3	-	-	1	3	4	3	6	9	8	11	12	13	29	24	21	15	13	20	17	19	19	12	10	10	12	9	12	9	8	5	3	2	2	2
23.9	-	-	-	-	-	-	3	4	3	3	4	9	7	8	13	14	14	14	9	12	14	10	12	16	8	5	4	9	10	10	9	6	2	3	-	-	2
24.7	-	-	-	-	-	-	4	3	3	9	7	10	8	8	13	16	16	13	12	20	16	27	23	26	13	12	10	9	10	11	10	8	5	4	3	2	4
25.8	-	-	2	2	4	3	6	5	4	10	11	9	8	12	20	15	14	17	30	33	31	40	36	29	26	20	12	9	8	8	4	3	2	2	4	5	3
27.9a	-	-	-	-	-	2	5	3	-	-	-	3	3	5	7	10	11	13	10	9	14	24	28	22	18	15	12	19	8	7	5	4	4	3	-	-	-
28.7	-	1	1	-	3	4	7	5	4	5	2	4	3	8	8	11	12	10	9	12	21	25	25	30	22	16	11	7	7	8	8	4	3	5	4	2	2

Table 63b

Coronal obeervations at Sacramento Peak, New Mexico (6374A), west limb

Date	Degreee eouth of the eolar equator																			0°	Degreee north of the solar equator																		
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																							
Feb. 1.7a	2	3	-	-	4	4	3	4	3	-	-	-	-	-	-	3	8	7	5	9	15	24	37	14	17	12	17	8	-	4	4	4	5	6	5	13	11
*2.9a	2	-	-	-	2	4	4	4	6	-	-	2	2	3	7	3	3	3	11	3	8	30	18	42	27	15	9	2	-	-	-	-	1	4	5	11	X
*3.7a	5	4	3	4	5	3	3	5	5	5	3	3	3	4	2	3	4	4	11	13	8	29	18	26	25	17	12	-	2	-	-	-	-	5	9	11	9
4.7a	4	3	3	4	4	4	8	8	10	11	-	5	5	-	-	9	14	13	11	17	25	42	33	20	31	16	18	19	11	3	-	-	3	7	11	13	12
5.9a	4	4	5	5	5	5	4	5	-	-	-	-	-	-	2	-	4	-	5	15	15	13	14	28	17	12	8	3	-	-	-	-	1	4	9	9	10
6.8a	3	2	3	-	2	2	3	2	-	-	-	-	-	-	-	-	6	11	4	8	9	11	10	14	12	6	6	-	-	-	-	3	5	8	10	8	8
7.7a	3	3	-	-	3	5	4	4	3	3	4	-	-	2	-	3	12	17	11	4	11	12	8	5	10	3	5	-	-	2	3	4	3	6	9	5	8
8.9	3	-	-	-	-	3	3	2	1	2	-	-	-	3	2	5	7	11	3	6	3	6	-	5	3	2	3	-	2	2	-	3	2	2	3	4	9
14.9	-	-	-	-	-	3	-	3	-	-	-	-	-	-	6	-	1	1	3	-	9	8	6	2	4	3	3	3	3	2	3	2	4	4	3	-	-
15.9	-	-	-	-	-	-	-	3	3	1	-	-	-	3	-	-	-	1	2	3	7	14	9	4	3	2	-	3	1	3	3	3	3	4	3	1	1
16.9	-	-	2	3	1	2	2	2	-	-	-	-	-	-	-	-	3	4	5	7	7	10	10	9	4	3	2	-	-	-	-	2	3	3	4	-	-
17.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	7	3	7	11	4	18	6	8	2	3	2	-	-	-	-	2	3	2	-	3
18.9	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	4	3	5	4	14	7	12	3	4	3	2	2	-	4	2	4	2	-	3	5
21.8	-	-	-	1	1	2	2	3	-	-	-	-	-	-	7	10	11	3	4	2	-	4	8	4	2	-	-	2	2	1	1	1	6	5	2	4	4
22.8	2	2	-	-	-	-	3	3	2	-	-	-	-	2	14	15	9	10	2	3	-	11	2	7	2	-	-	1	-	-	-	2	4	4	3	2	3
23.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	10	4	-	-	7	8	7	3	1	-	-	-	-	-	-	-	-	1	1	2	2
24.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	3	1	6	9	10	13	12	4	3	-	2	-	-	-	-	3	5	5	5	4
25.8	-	-	1	3	3	2	2	1	1	1	-	1	-	-	4	13	3	5	9	5	10	15	22	17	6	7	3	2	-	-	3	-	-	4	5	4	5
27.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	13	13	6	2	1	-	-	-	-	-	-	-	-	4	5	1
28.7	2	3	-	-	-	-	-	-	-	-	-	-	-	2	8	4	1	3	2	4	10	7	9	3	8	2	-	-	-	4	4	-	2	4	6	7	3

Table 64a

Coronal observations at Sacramento Peak, New Mexico (6704A), east limb

Date GCT	Degrees north of the solar equator																			0°	Degrees south of the solar equator																		
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																						
Feb. 1.7a	-	-	-	-	-	-	1	-	1	-	-	-	-	3	4	4	4	5	3	3	3	2	2	2	1	2	2	2	2	1	-	-	-	-	-	-	-
2.9z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	5	5	5	4	2	1	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3	3	4	3	2	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	2	-	-	-	-	-	-	2	2	-	-	2	-	-	-	-	-	1	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	3	3	2	-	-	2	3	2	-	-	1	-	-	-	-	1	2	2	2	-	-
8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
14.9a	-	-	-	-	-	-	3	-	2	-	-	-	1	-	-	3	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
15.9	-	-	-	-	-	-	-	1	-	-	-	-	-	2	2	6	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.9	-	-	1	-	-	-	-	-	-	-	-	-	-	2	2	5	3	2	2	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-
17.9	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	5	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.9	-	-	-	-	-	-	-	-	-	-	-	-	1	2	6	3	3	2	2	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.8	-	-	-	-	-	-	-	-	-	-	-	1	-	2	2	2	1	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	3	2	-	-	-	-	2	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-
23.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2	-	-	-	-	-	2	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	2	1	-	-	2	-	-	-	-	-	2	1	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-
25.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.9a	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	1	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Observation low weight: Feb. 21.8 at 850° - 870°; Feb. 28.7 at 805° - 870°.

Table 64b

Coronal observations at Sacramento Peak, New Mexico (6704A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Feb. 1.7a	-	1	1	-	2	-	-	2	-	-	3	1	-	3	3	2	2	3	2	2	5	6	10	9	7	6	3	2	2	3	2	2	3	-	-	-	-
*2.9a	-	-	-	-	-	1	1	1	1	1	1	1	2	3	3	3	3	4	3	3	3	5	7	9	8	7	4	6	3	2	2	3	-	2	-	-	X
*3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	3	2	2	3	8	11	12	10	7	5	4	3	2	3	1	-	-	-	-	-
4.7a	-	-	-	-	-	2	1	1	1	-	-	-	-	-	3	3	2	2	3	4	4	8	13	14	11	12	9	10	6	6	4	3	2	1	1	1	-
5.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	1	1	3	2	2	4	5	8	5	5	4	3	2	2	-	-	-	-	-	-
6.8a	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2	3	2	2	1	2	1	3	3	3	3	3	3	2	1	-	-	1	-	1	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	4	3	3	3	3	3	3	3	4	4	5	5	3	2	2	2	-	-	-	-	-
8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
14.9	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
15.9	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	1	2	3	2	-	-	-	-	-	-	-	-	-	-
21.8	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-
22.8	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	2	2	2	1	1	1	-	-	-	-	-	1	-	-	-	-	-	-	2	1	-	-
23.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	2	-	1	-	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	2	1	2	1	1	4	2	2	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
25.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	4	3	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-
27.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	1	-	-	1	3	3	3	1	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	2	3	-	-	-	-	-	-	-	-	-	-	-

*Intensity of yellow line (5694A) west limb:
Feb. 2.9 — 14 at N20°, 14 at N21°, 11 at N22°, 13 at N23°, 13 at N24°, 12 at N25°, 8 at N26°, 4 at N27°, 4 at N28°;
Feb. 3.7 — 4 at N22°, 4 at N23°, 3 at N24°, 3 at N25°, 3 at N26°, 2 at N27°.

Table 65

Preliminary values of mean K-indices, Kw, from 34 Observatories;

Preliminary values of International Character-Figures, C;

Geomagnetic planetary three-hour-range indices, Kp;

Final magnetically selected days for February 1950

Gr. Day 1950	Values Kw	Sum	C	Values Kp	Sum	Final Sel. Days
1	1.4 2.2 2.1 1.8 2.0 1.3 1.9 1.1	13.8	0.2	2-3o2+2o 2-1+2o1o	15o	Five
2	1.7 1.7 4.2 3.9 4.1 4.2 3.1 2.1	25.0	1.2	1+2-6-5- 5-4+3+2o	28-	Quiet
3	1.1 1.5 3.1 3.7 3.3 2.8 3.9 3.7	23.1	1.1	1+2-4o5- 4-3o4o4o	26+	
4	2.3 1.6 2.0 2.4 3.3 4.2 4.6 3.4	23.8	1.2	2+2-3-3- 3+4+4+4-	25o	10
5	1.7 3.0 1.5 0.9 1.1 2.8 2.5 1.2	14.7	0.6	2o4o2-1- 1o3-2+1o	15+	13
						16
6	0.7 1.6 2.0 2.4 2.8 2.8 1.9 1.9	16.1	0.6	0o2+3-2+ 3o3o2o2-	17o	17
7	1.7 3.1 1.4 1.9 2.5 2.1 3.1 4.1	19.9	1.0	1+4o2-2+ 3o2+3o4o	22-	26
8	1.6 2.5 1.9 1.9 2.4 3.0 2.6 2.9	18.8	0.6	2o3+2+2+ 3-3+3-3o	22-	
9	3.5 2.1 1.9 1.5 1.3 2.6 3.5 2.9	19.3	0.8	4-2+2+2o 1+3-3+3o	21-	
10	1.8 0.7 0.6 0.7 1.1 1.1 0.7 1.4	8.1	0.0	2-1-0o1- 1o1o1-1o	7-	Five
						Dist.
11	0.8 1.2 1.1 2.2 2.0 0.6 0.6 2.2	10.7	0.3	1-2-1+2o 2o0+0+2o	10+	
12	2.4 1.1 1.2 1.1 1.6 2.1 2.2 1.3	13.0	0.2	3-1-1+1+ 1+2+2o1-	12+	20
13	0.7 1.0 1.3 1.1 0.9 1.4 1.7 0.6	8.7	0.1	1-1o2-1o 1-1+2-0+	8+	21
14	1.5 2.1 0.7 0.5 1.1 1.2 2.1 1.5	10.7	0.2	2-3-1-1- 1-1+2+1+	11+	22
15	2.0 1.5 2.0 2.4 1.6 1.5 2.4 1.7	15.1	0.4	2+2-2o3- 2-1+2+2-	16-	23
						24
16	1.4 0.7 0.8 1.5 1.4 0.7 0.9 1.6	9.0	0.1	2-1-1o2o 1+1-1-1+	9+	
17	1.0 1.0 1.4 1.1 1.5 0.6 0.6 0.8	8.0	0.0	1-1+1+1o 1+0+0+0+	7-	
18	0.9 0.4 0.7 1.3 1.1 1.8 2.1 2.0	10.3	0.3	0+0o0+2- 1-2-2-2o	8+	Ten
19	1.5 2.0 1.9 1.1 1.1 1.3 1.0 2.5	12.4	0.5	1+2o2-1o 1o1o1o3-	12-	Quiet
20	2.1 2.2 1.5 1.9 2.8 5.2 7.7 7.3	30.7	1.8	2+3-2-2+ 3o5o9-8+	34o	
						1
21	5.9 6.1 4.6 3.9 4.5 4.3 4.3 4.3	37.9	1.9	7+8-6+5- 5+5-4+5-	45o	10
22	4.0 3.0 3.3 2.7 2.9 4.1 4.5 3.8	28.3	1.3	4+4o4o3+ 3o4o5-4o	31+	11
23	2.5 1.7 1.5 4.9 5.1 4.5 5.7 5.6	31.5	1.6	3o2o2o6- 6o5-6o6+	36-	13
24	5.1 5.8 4.3 3.3 1.9 1.2 3.9 3.9	29.4	1.6	6+7o5+4- 2-1+4o4o	33+	14
25	4.0 3.1 3.3 3.2 3.0 1.7 1.4 1.5	21.2	1.1	5-4-4-4- 3+1+1+1+	23o	16
						17
26	1.2 0.9 0.9 0.4 0.7 0.3 0.8 0.5	5.7	0.0	1o1-1-1- 0+0+1-0+	5-	18
27	0.5 0.5 0.9 1.3 2.3 1.0 1.4 2.3	10.2	0.2	0o0+1-1+ 3-1-1+2o	9o	26
28	1.4 1.5 3.2 3.1 2.6 2.1 1.9 1.9	17.7	0.7	1+2-4o4- 3-2+2o2o	20-	27
Mean	2.01 1.98 2.21 2.61 1.99 2.07 2.23 2.50	2.20	0.70			

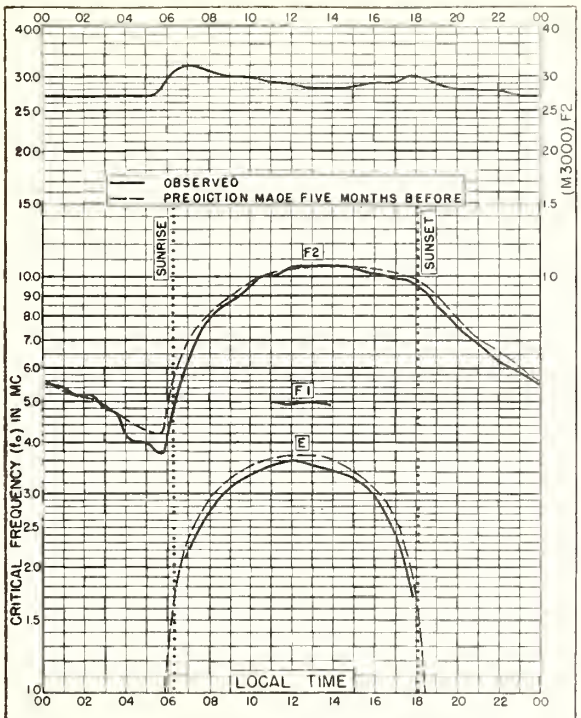


Fig. 1. WASHINGTON, D.C.
38.7°N, 77.1°W MARCH 1950

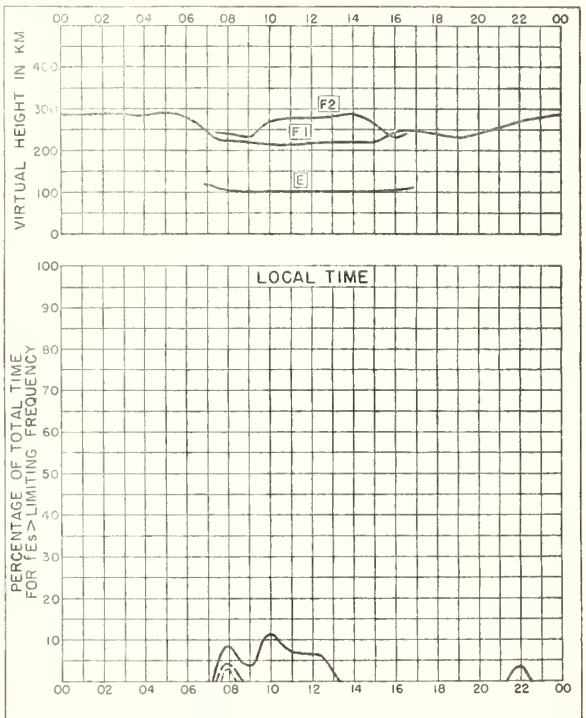


Fig 2 WASHINGTON, D. C. MARCH 1950

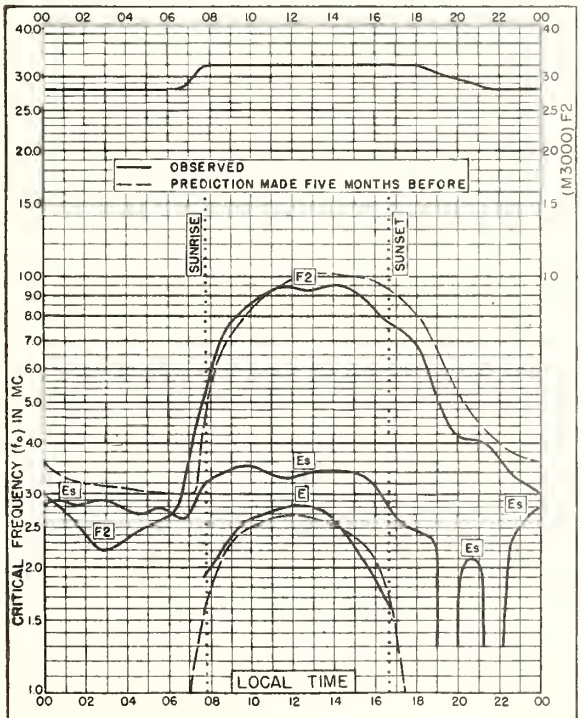


Fig. 3. OSLO, NORWAY
60.0°N, 11.0°E FEBRUARY 1950

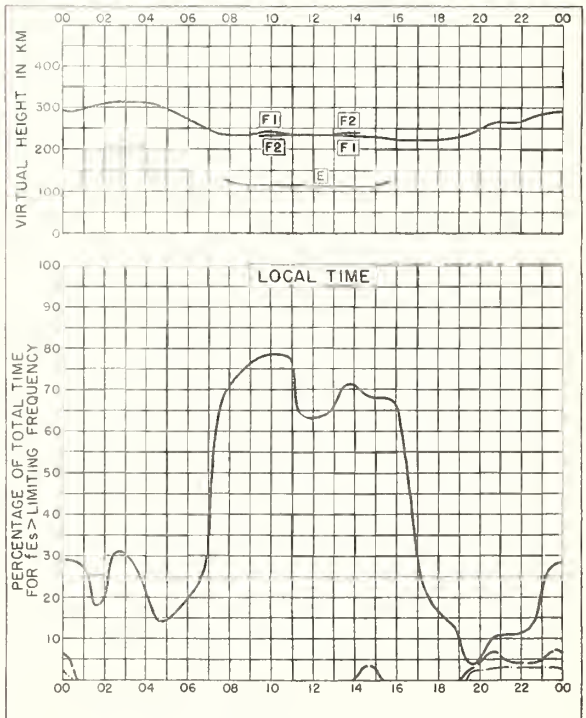


Fig. 4. OSLO, NORWAY FEBRUARY 1950

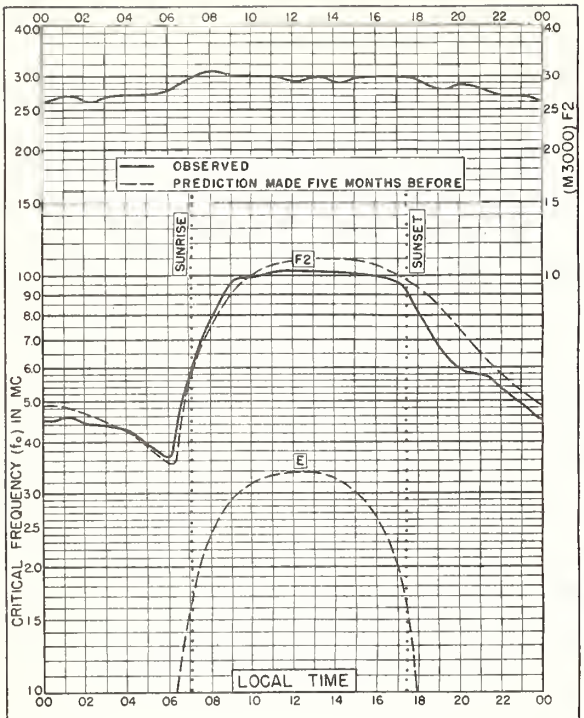


Fig. 5. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W FEBRUARY 1950

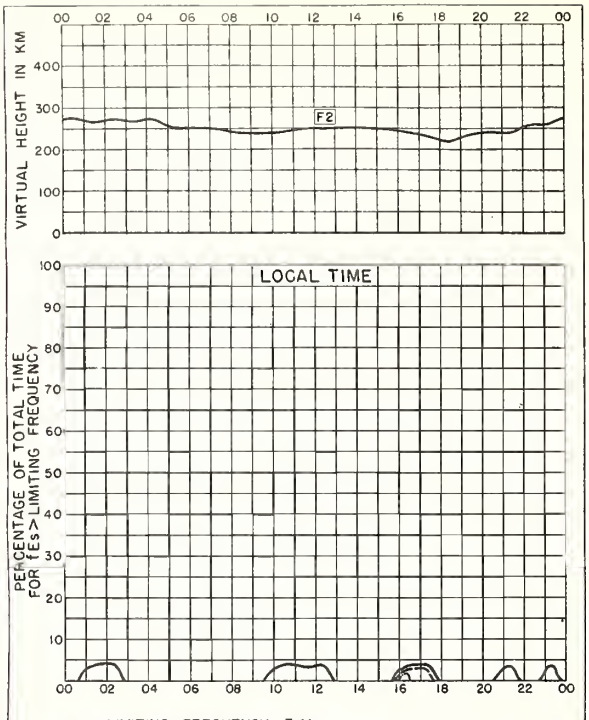


Fig. 6. BOSTON, MASSACHUSETTS FEBRUARY 1950

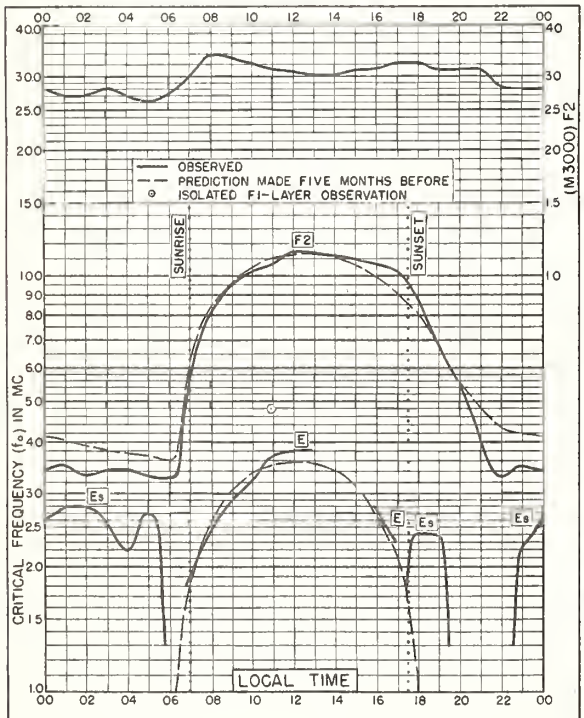


Fig. 7. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W FEBRUARY 1950

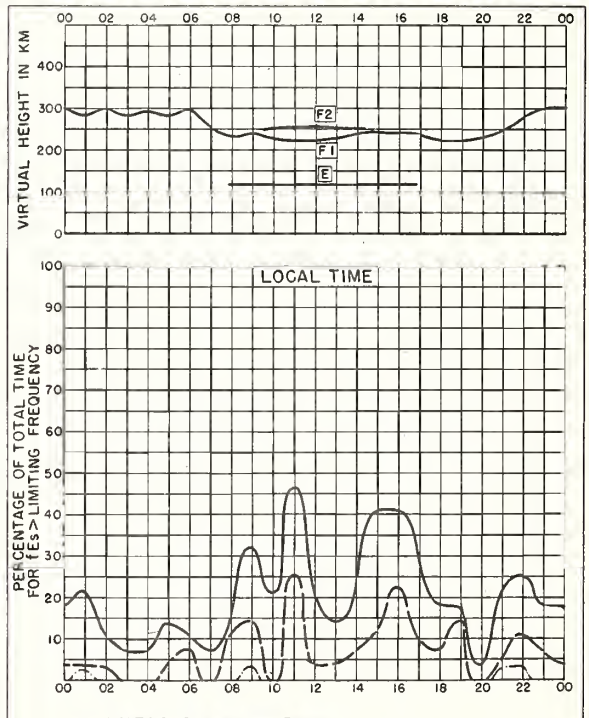


Fig 8. SAN FRANCISCO, CALIFORNIA FEBRUARY 1950

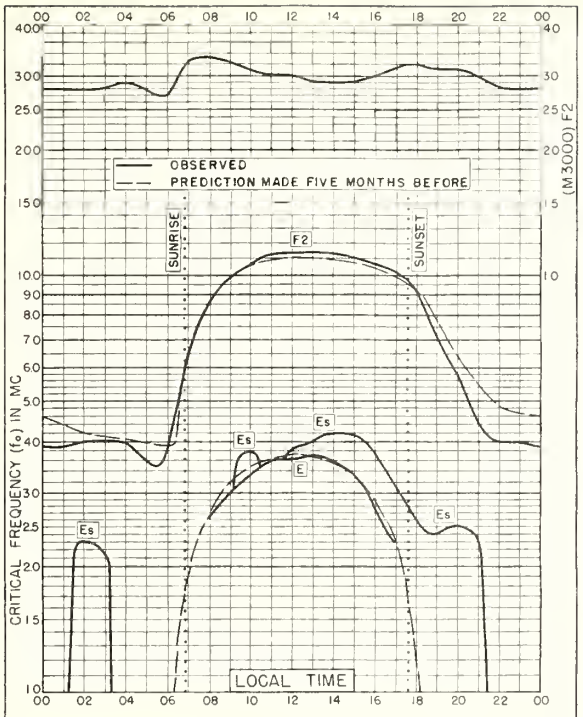


Fig. 9. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W FEBRUARY 1950

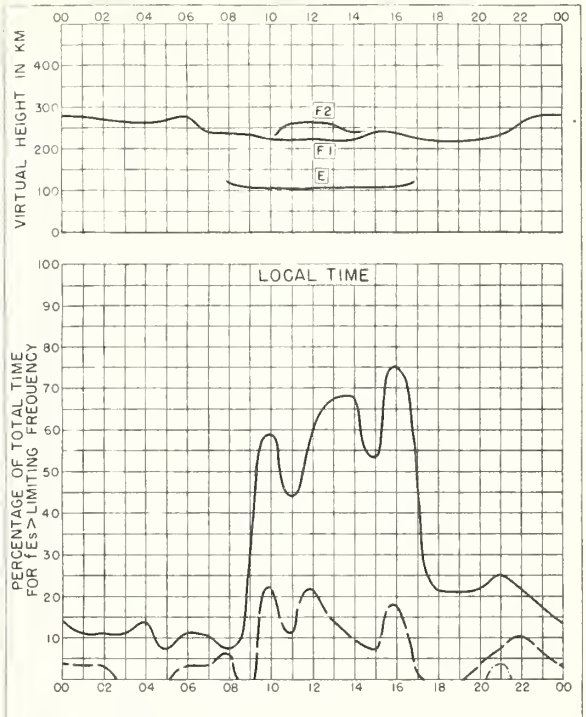


Fig. 10. WHITE SANDS, NEW MEXICO FEBRUARY 1950

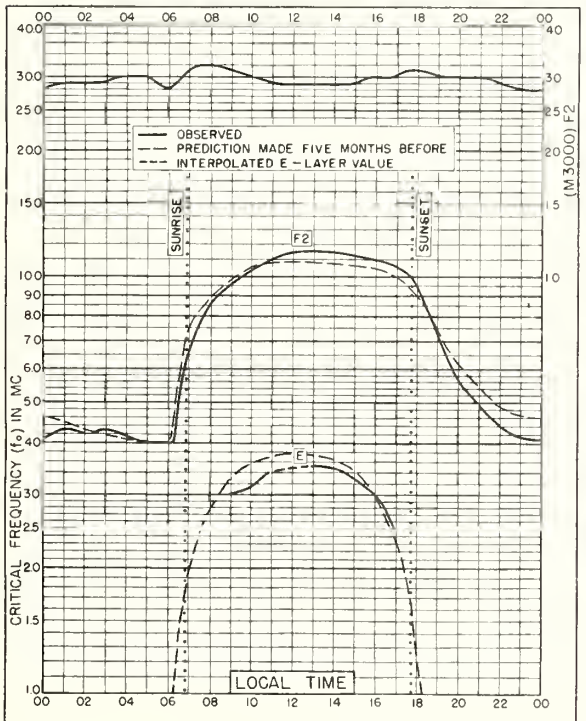


Fig. 11. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W FEBRUARY 1950

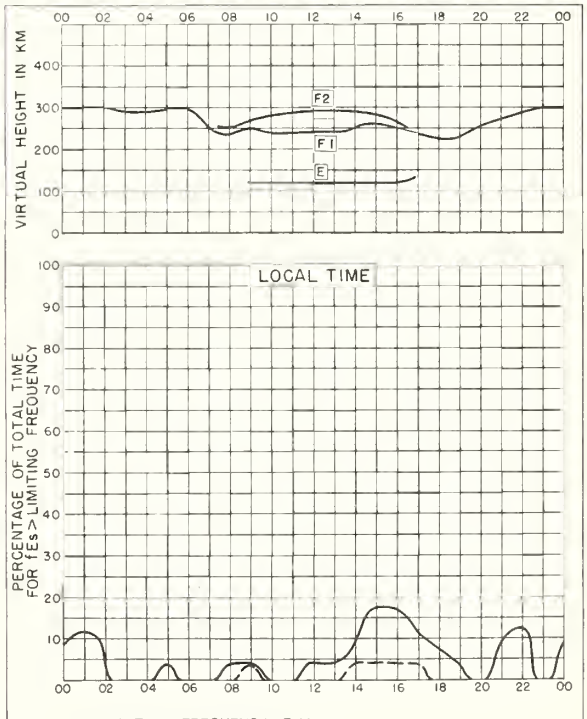


Fig. 12. BATON ROUGE, LOUISIANA FEBRUARY 1950

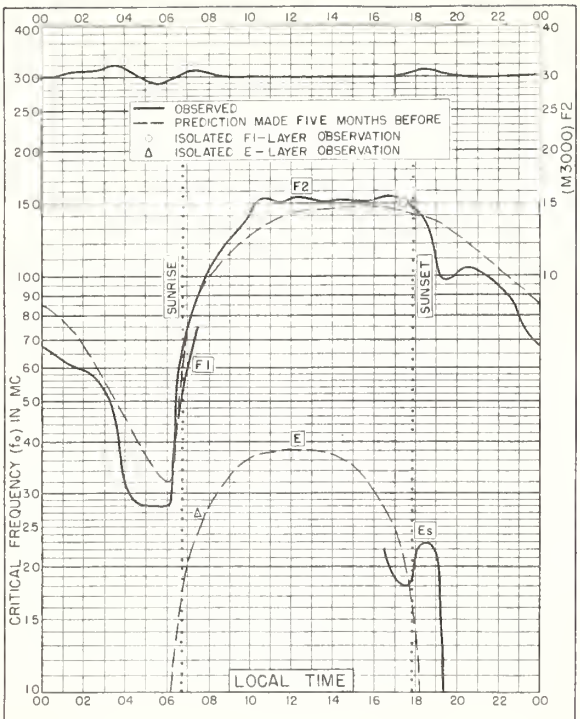


Fig. 13. OKINAWA I.
26.3°N, 127.7°E FEBRUARY 1950

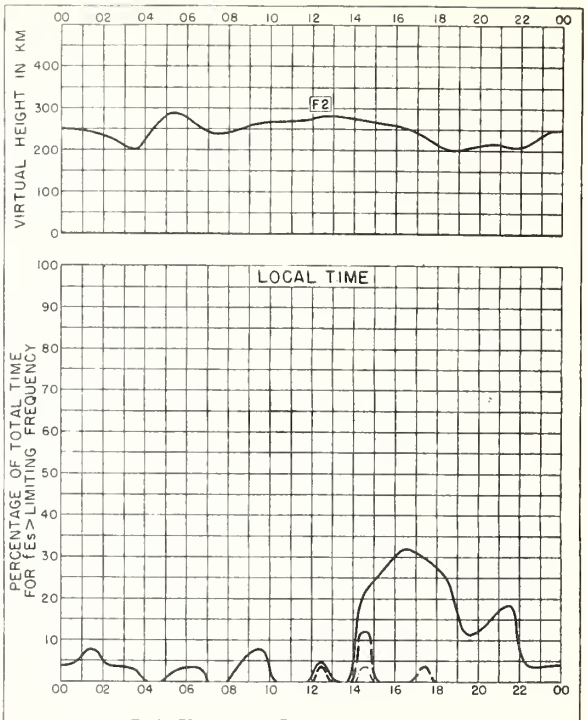


Fig. 14. OKINAWA I. FEBRUARY 1950

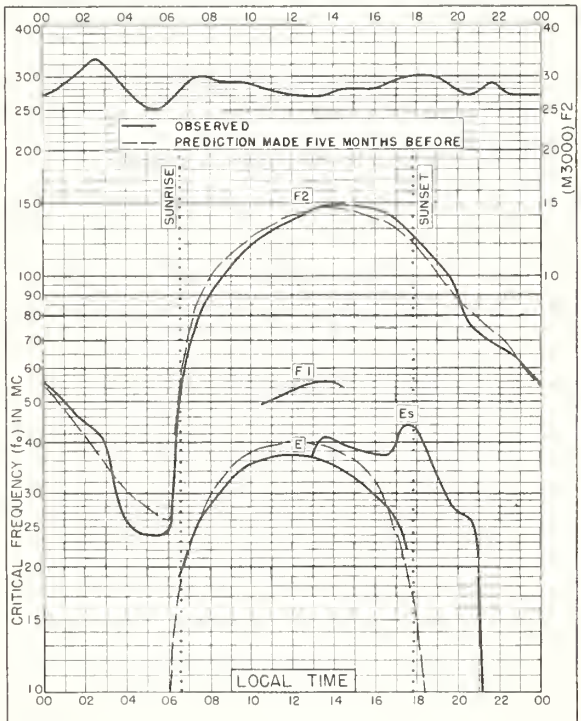


Fig. 15. MAUI, HAWAII
20.8°N, 156.5°W FEBRUARY 1950

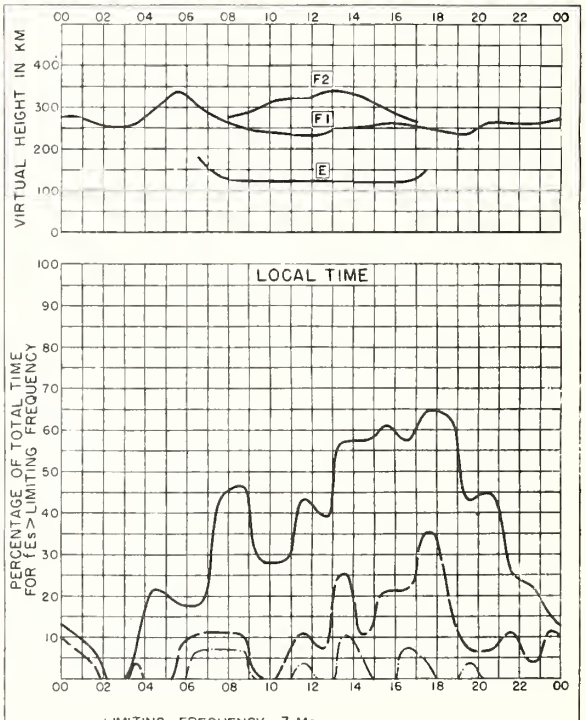


Fig. 16. MAUI, HAWAII FEBRUARY 1950

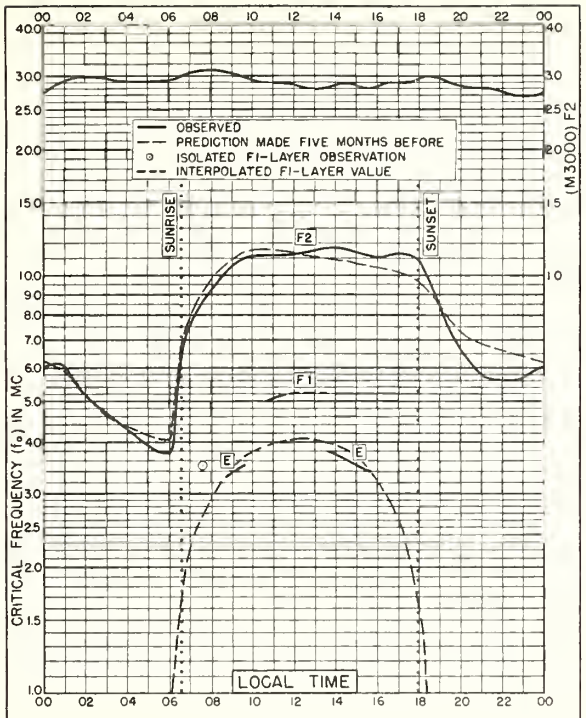


Fig. 17. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W FEBRUARY 1950

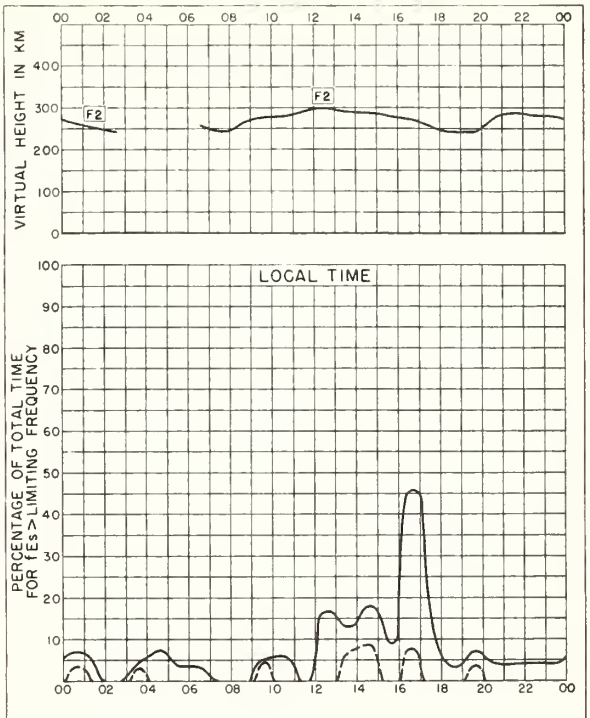


Fig. 18. SAN JUAN, PUERTO RICO FEBRUARY 1950

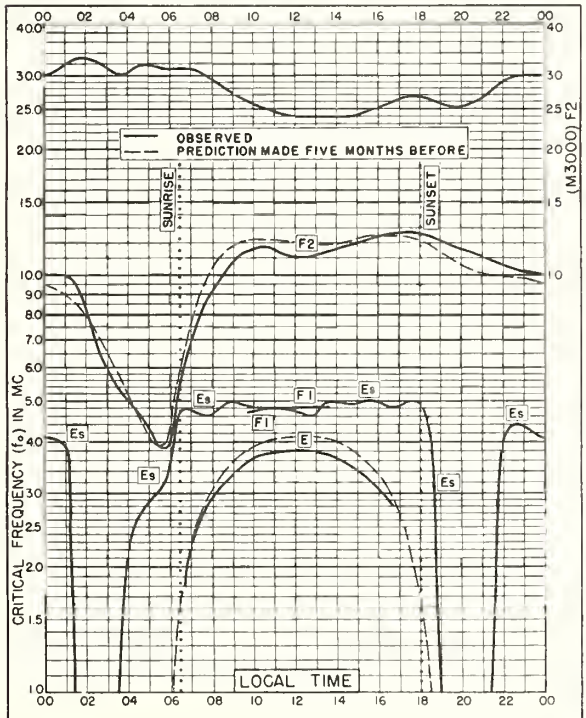


Fig. 19. GUAM I.
13.6°N, 144.9°E FEBRUARY 1950

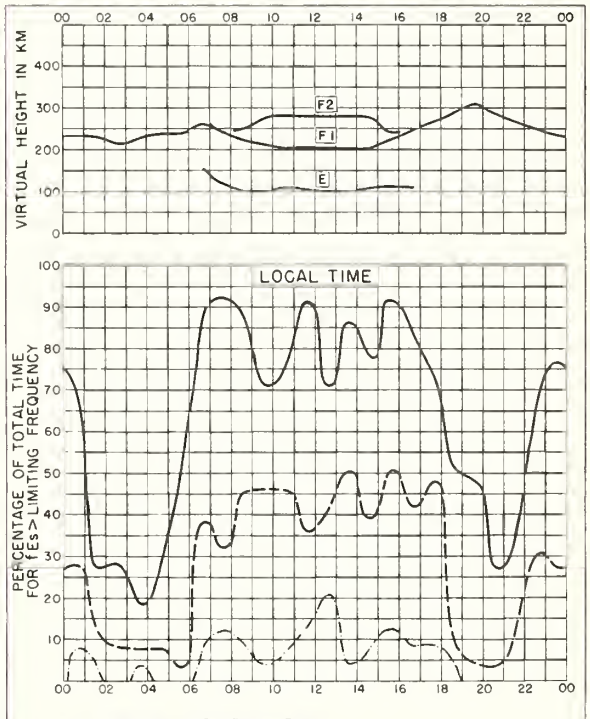


Fig. 20. GUAM I. FEBRUARY 1950

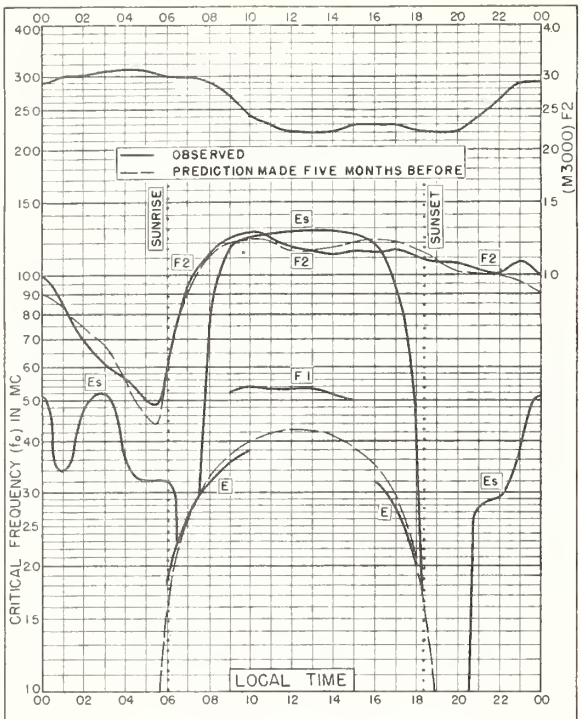


Fig. 21. HUANCAYO, PERU
12.0°S, 75.3°W FEBRUARY 1950

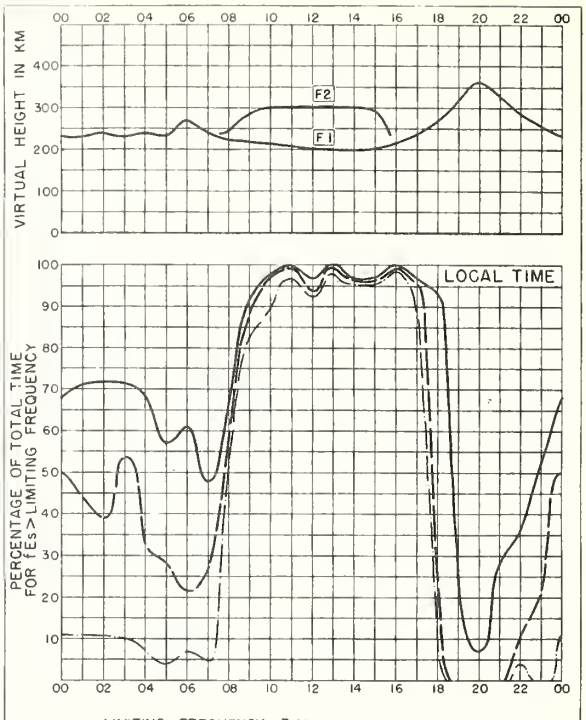


Fig. 22. HUANCAYO, PERU FEBRUARY 1950

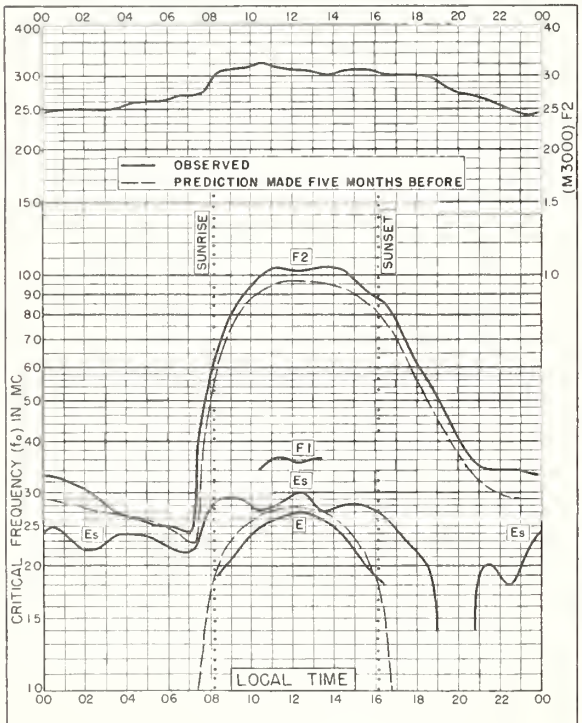


Fig. 23. De BILT, HOLLAND
52.1°N, 5.2°E JANUARY 1950

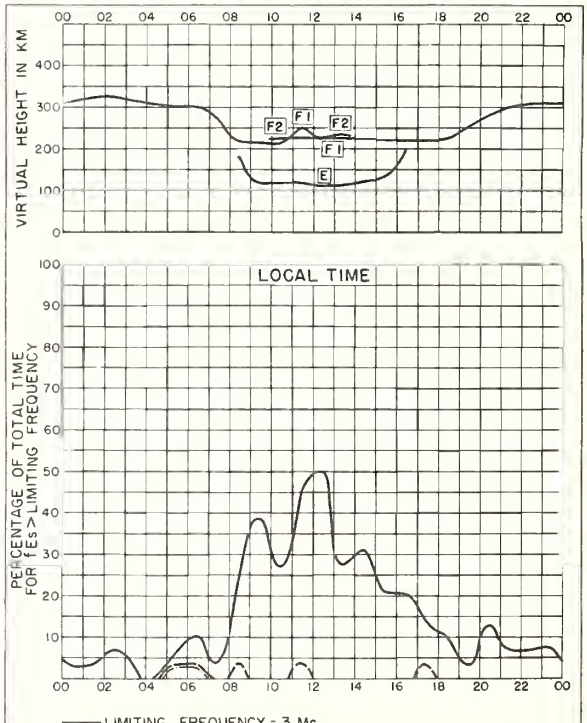


Fig. 24. De BILT, HOLLAND JANUARY 1950

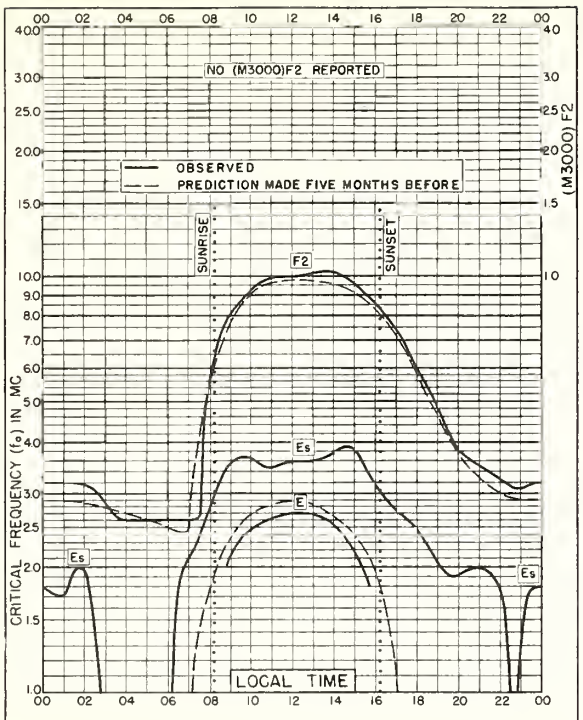


Fig. 25. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E JANUARY 1950

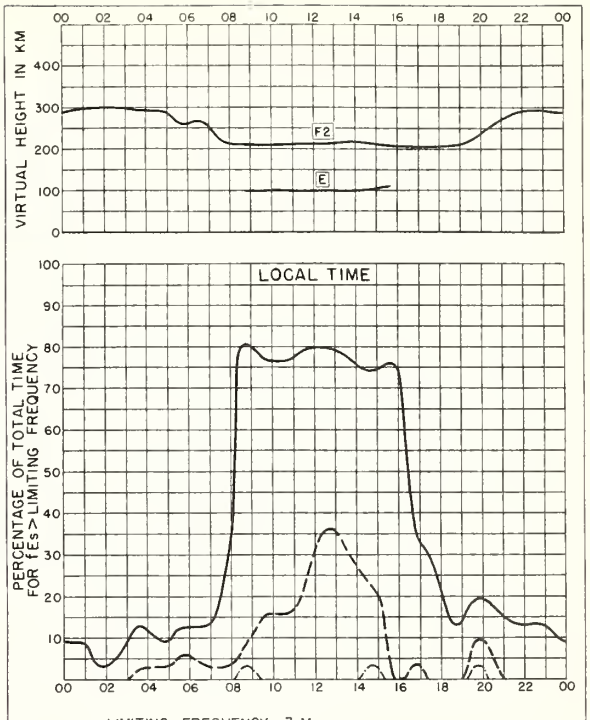


Fig. 26. LINDAU/HARZ, GERMANY JANUARY 1950

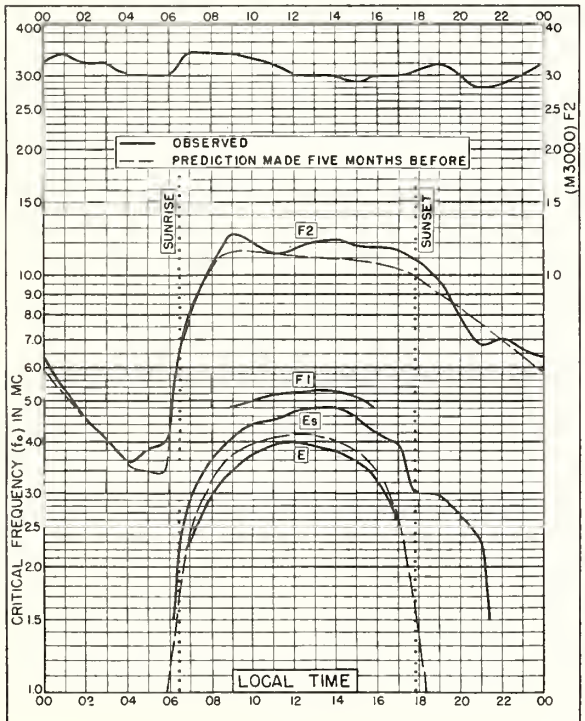


Fig. 27. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W JANUARY 1950

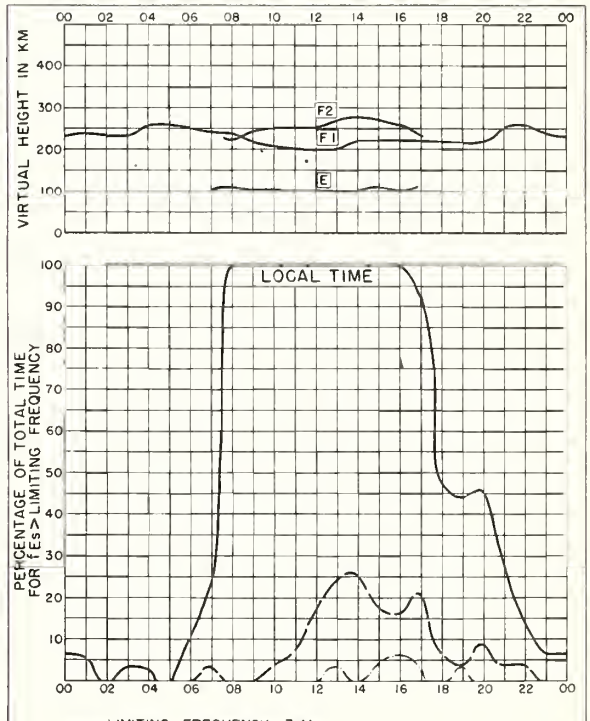


Fig. 28. TRINIDAD, BRIT. WEST INDIES JANUARY 1950

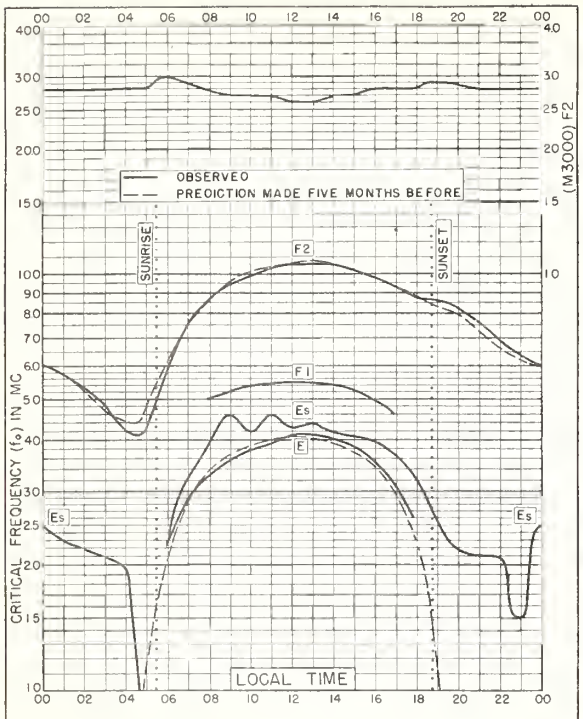


Fig. 29. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.0°E JANUARY 1950

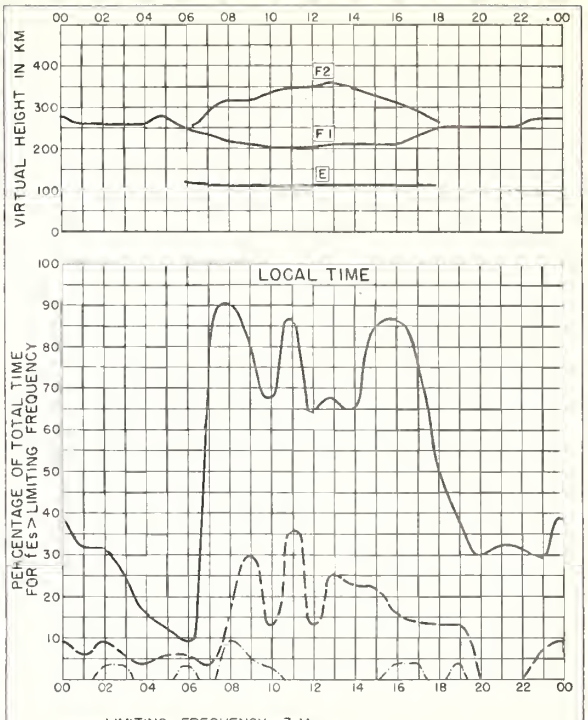


Fig. 30. JOHANNESBURG, U. OF S. AFRICA JANUARY 1950

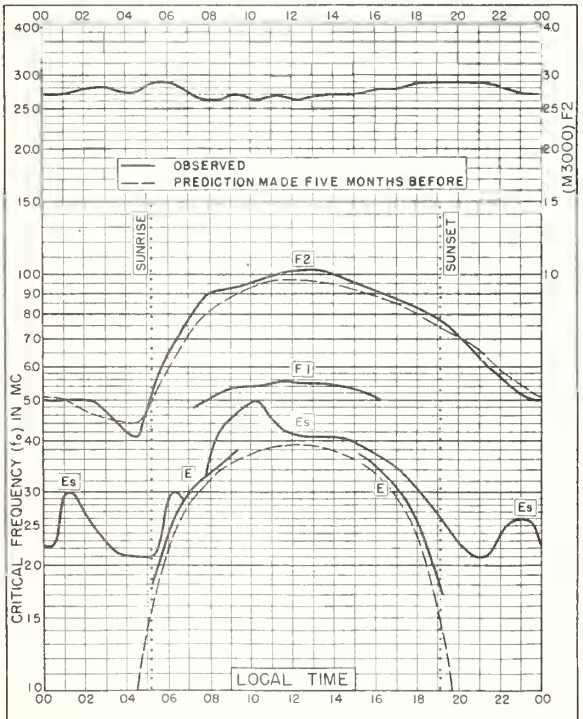


Fig. 31. CAPETOWN, U. OF S. AFRICA
34.2°S, 18.3°E JANUARY 1950

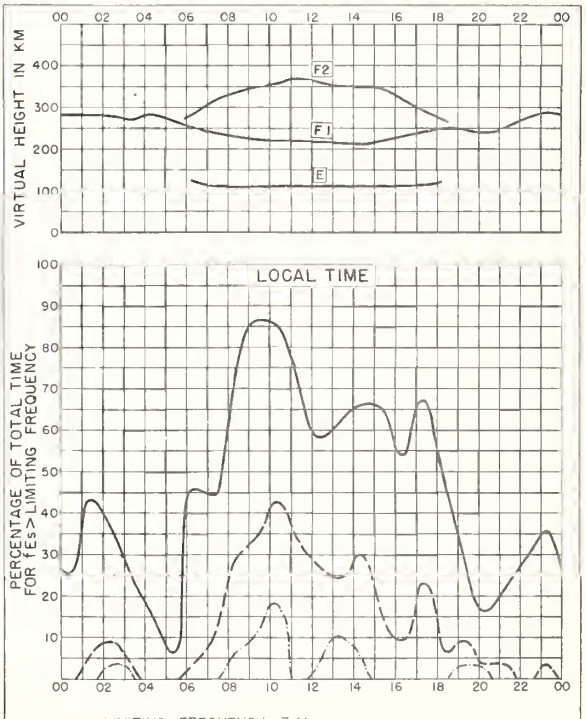


Fig. 32. CAPETOWN, U. OF S. AFRICA JANUARY 1950

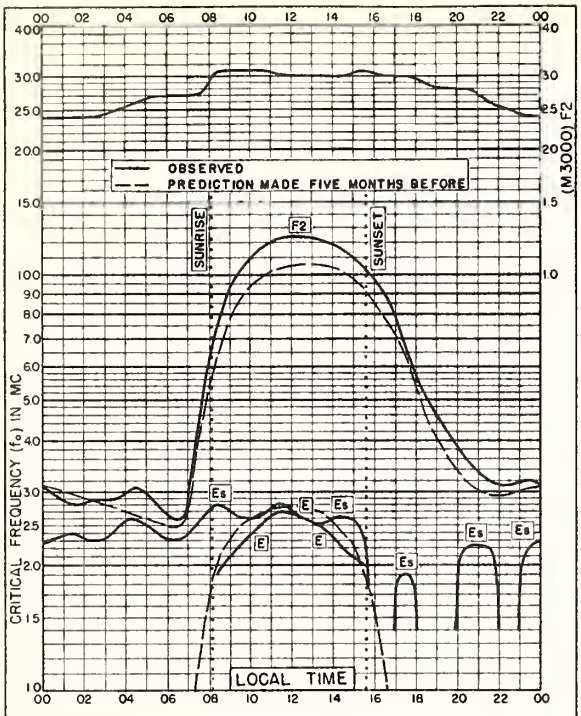


Fig. 33. De BILT, HOLLAND
52.1°N, 5.2°E DECEMBER 1949

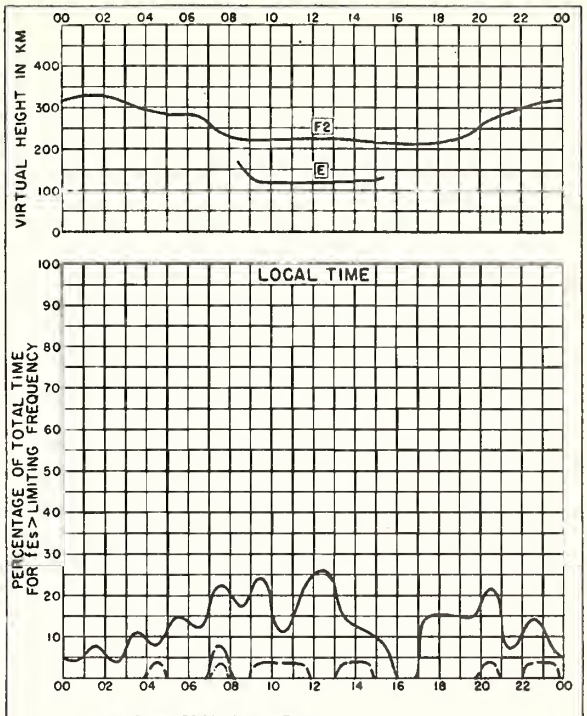


Fig. 34. De BILT, HOLLAND DECEMBER 1949

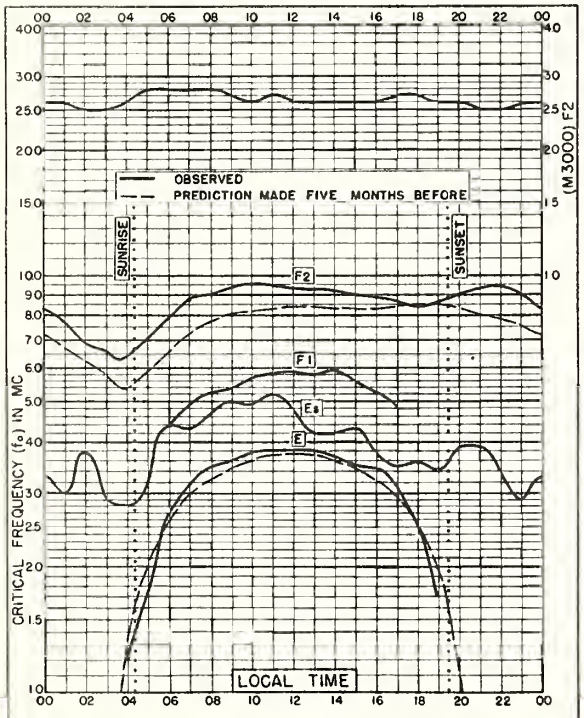


Fig. 35. CHRISTCHURCH, N. Z.
43.5°S, 172.7°E DECEMBER 1949

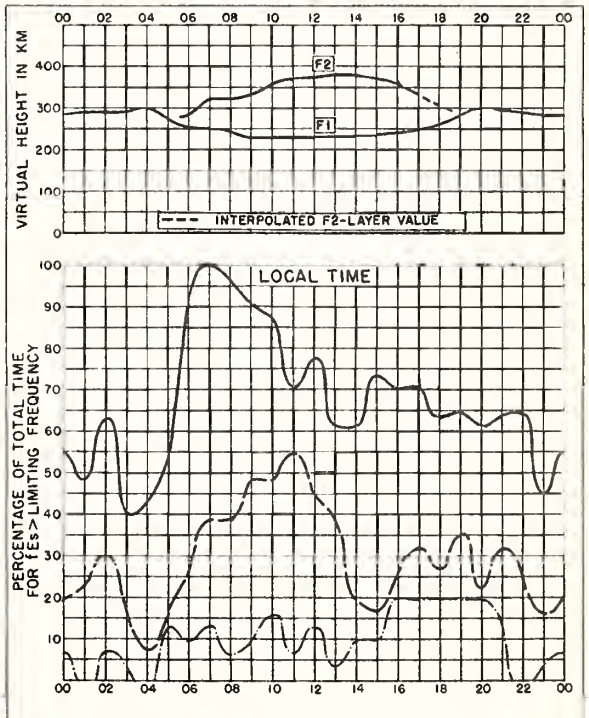


Fig. 36. CHRISTCHURCH, N. Z. DECEMBER 1949

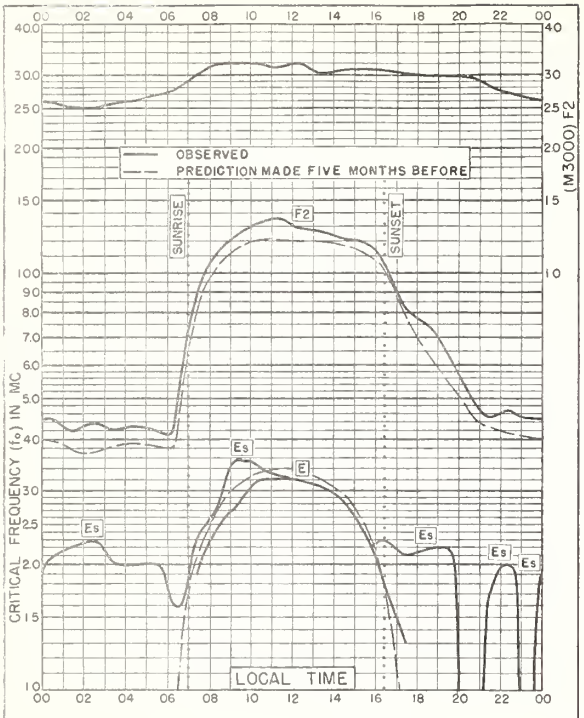


Fig. 37. WAKKANAI, JAPAN
45.4°N, 141.7°E NOVEMBER 1949

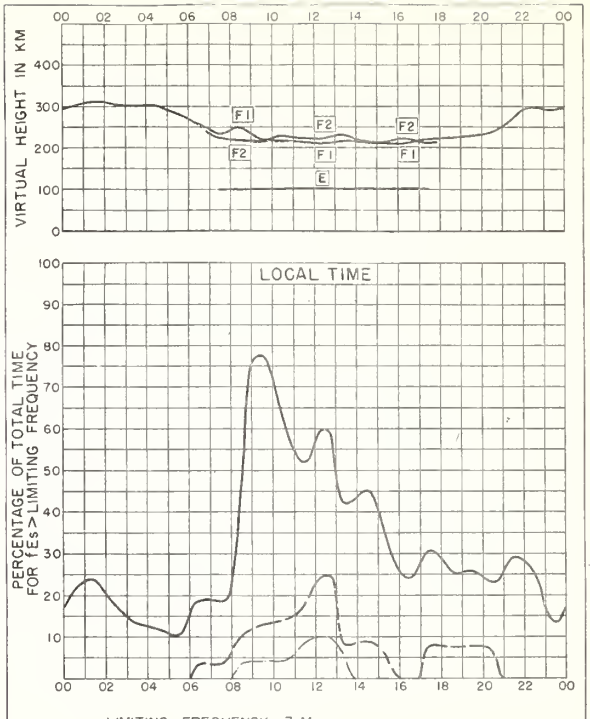


Fig. 38. WAKKANAI, JAPAN NOVEMBER 1949

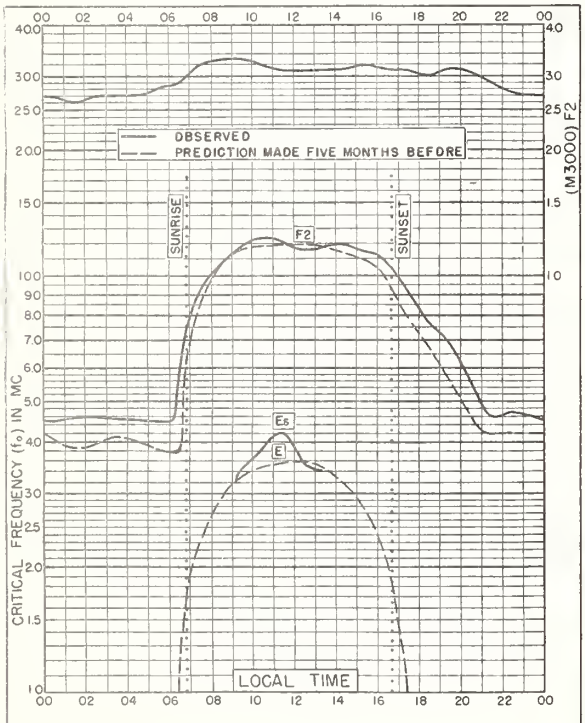


Fig. 39. FUKAURA, JAPAN
40.6°N, 139.9°E NOVEMBER 1949

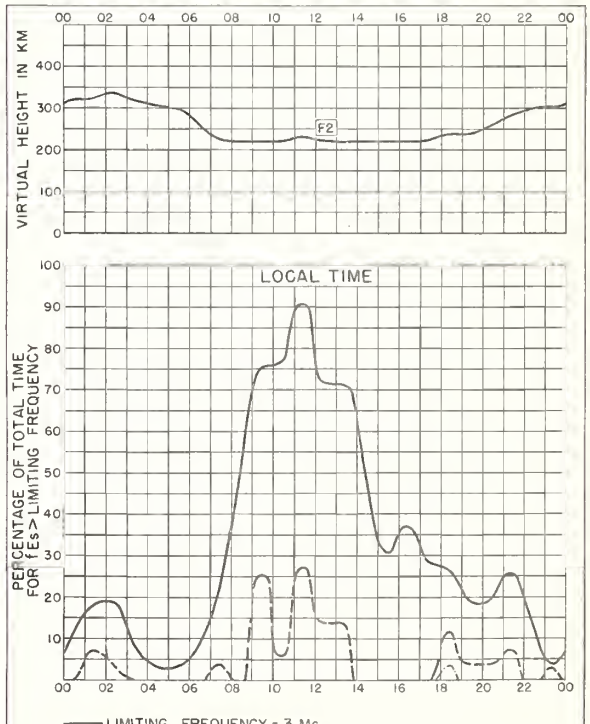


Fig. 40. FUKAURA, JAPAN NOVEMBER 1949

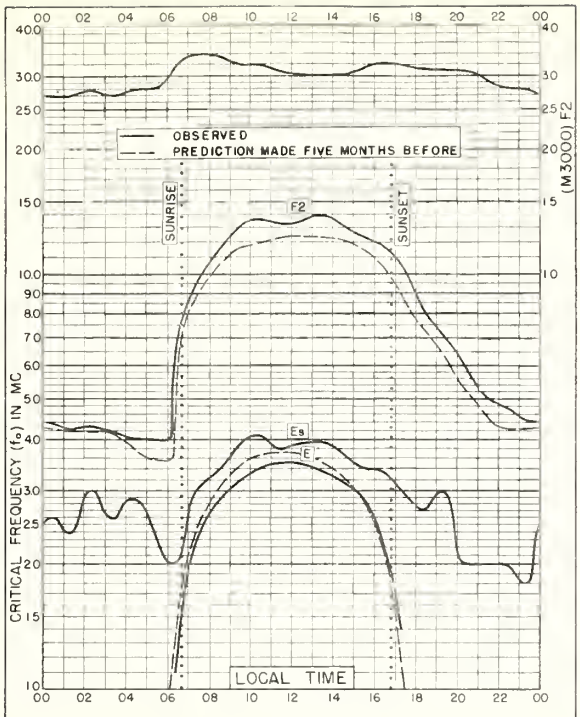


Fig. 41. TOKYO, JAPAN
35.7°N, 139.5°E NOVEMBER 1949

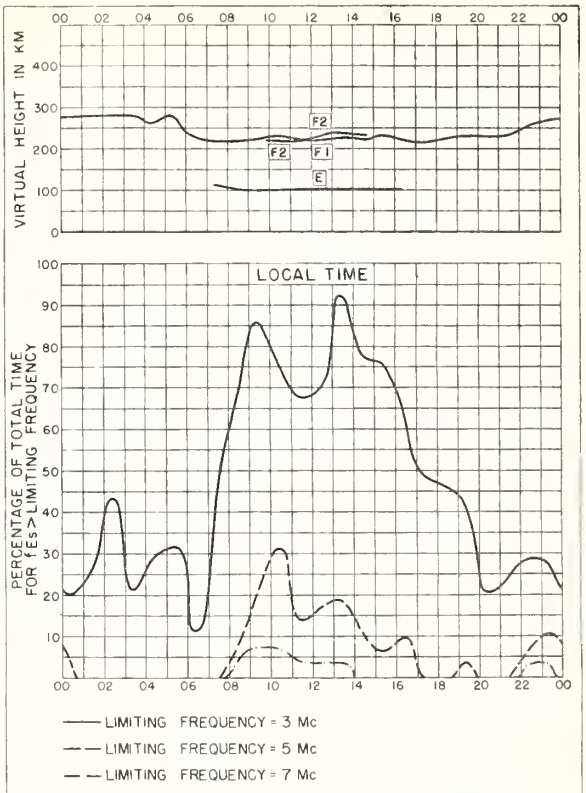


Fig. 42. TOKYO, JAPAN NOVEMBER 1949

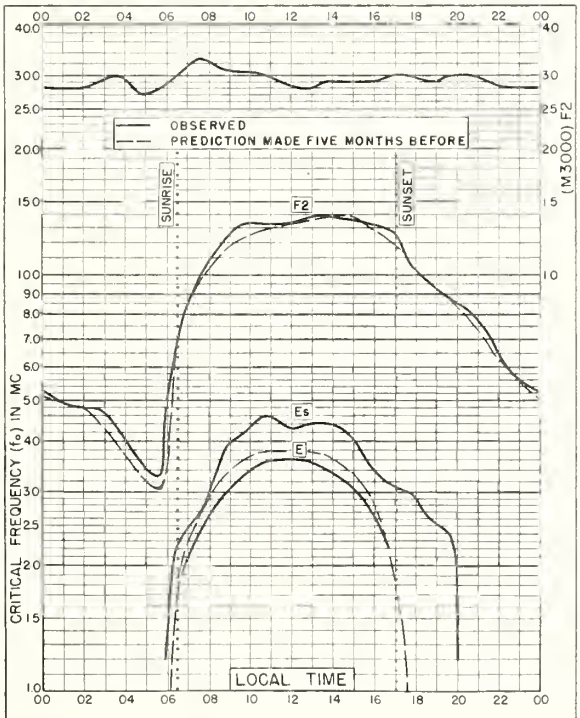


Fig. 43. YAMAGAWA, JAPAN
31.2°N, 130.6°E NOVEMBER 1949

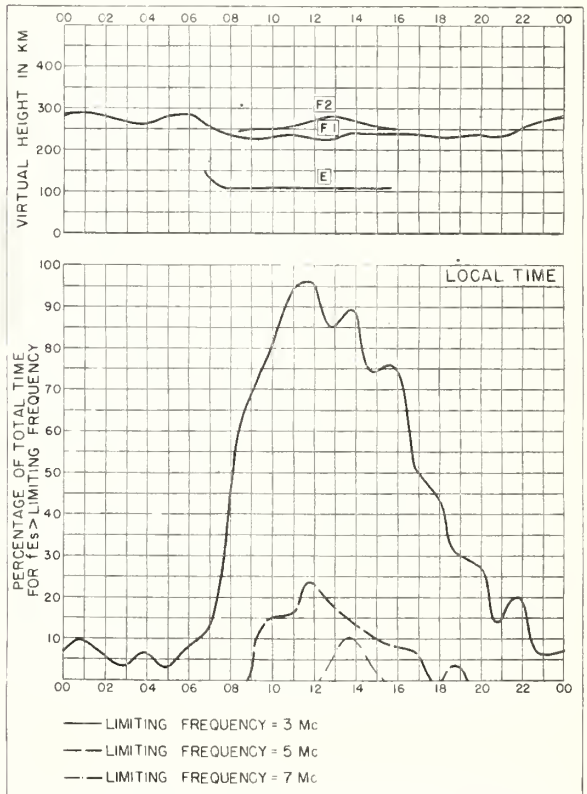


Fig. 44. YAMAGAWA, JAPAN NOVEMBER 1949

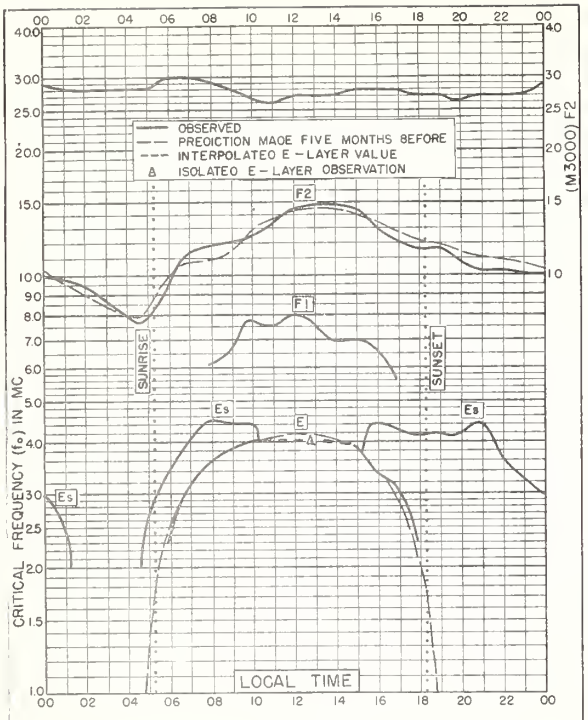


Fig. 45. RAROTONGA I.
21.3°S, 159.8°W NOVEMBER 1949

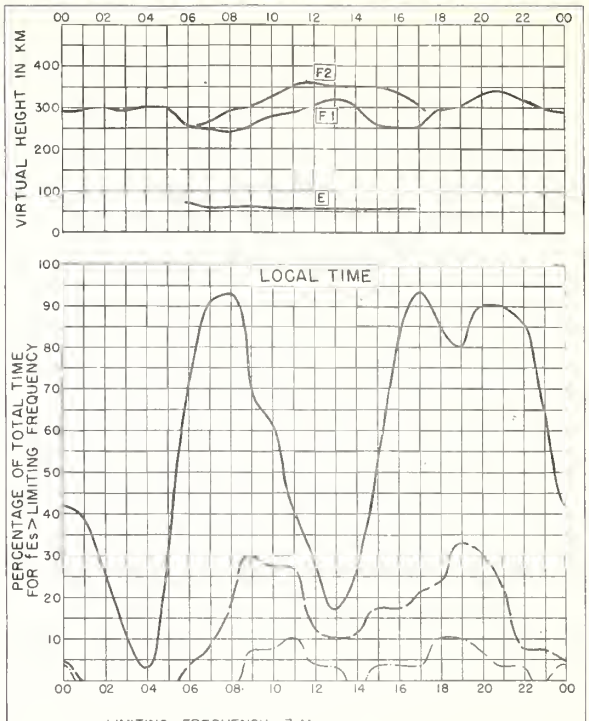


Fig. 46. RAROTONGA I. NOVEMBER 1949

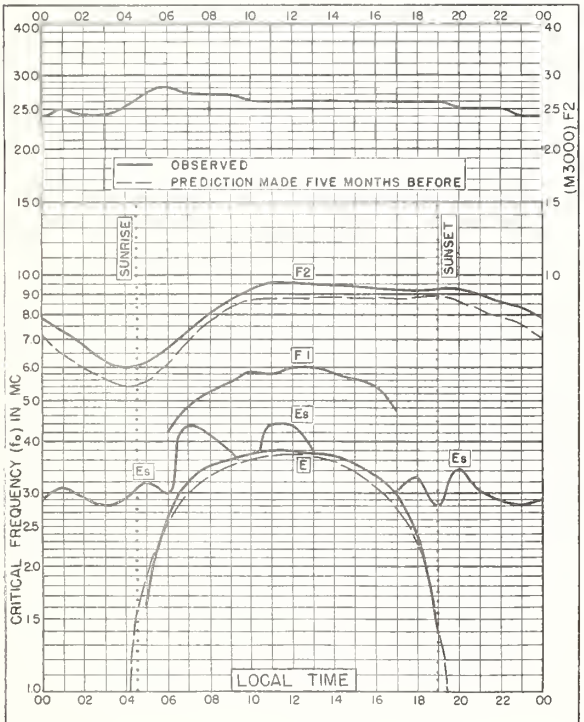


Fig. 47. CHRISTCHURCH, N Z.
43.5°S, 172.7°E NOVEMBER 1949

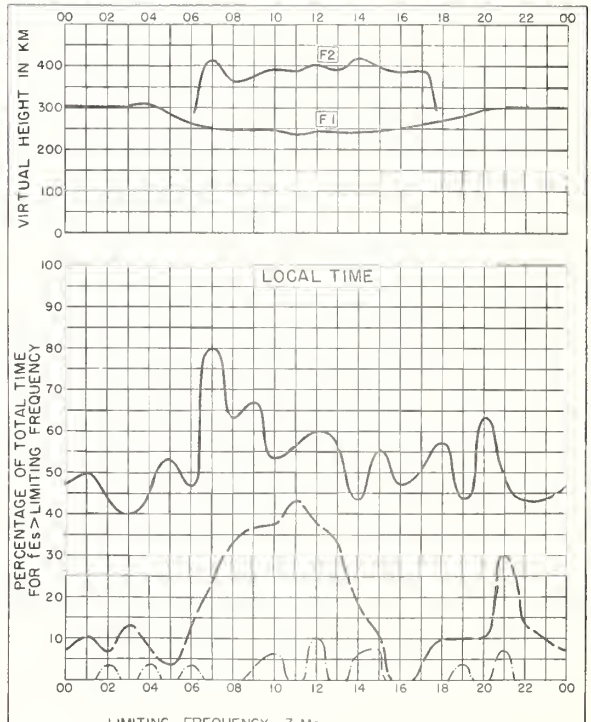


Fig. 48. CHRISTCHURCH, N. Z. NOVEMBER 1949

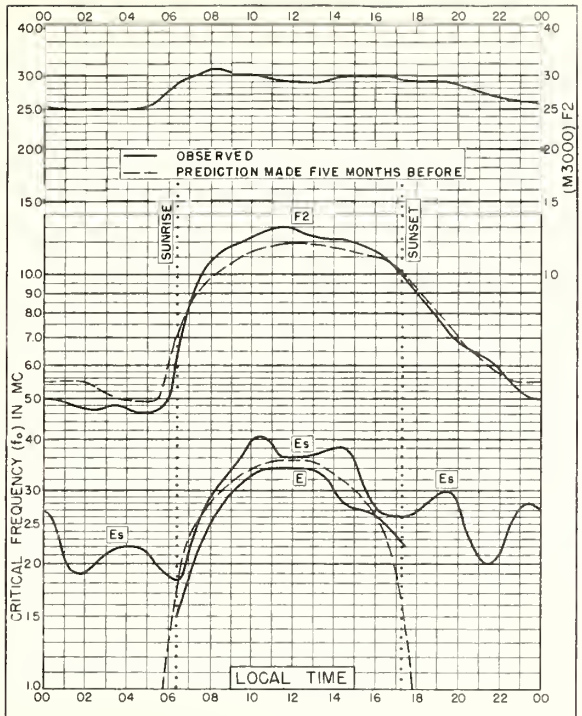


Fig. 49. WAKKANAI, JAPAN
45.4°N, 141.7°E OCTOBER 1949

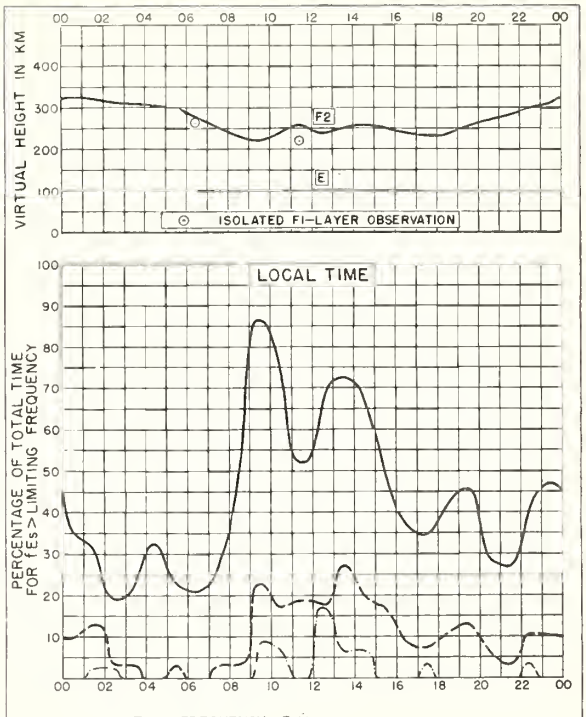
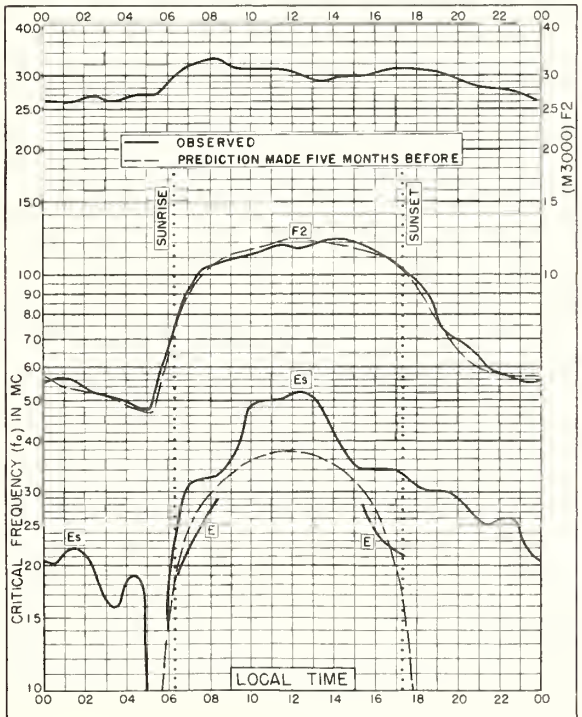


Fig. 50. WAKKANAI, JAPAN OCTOBER 1949



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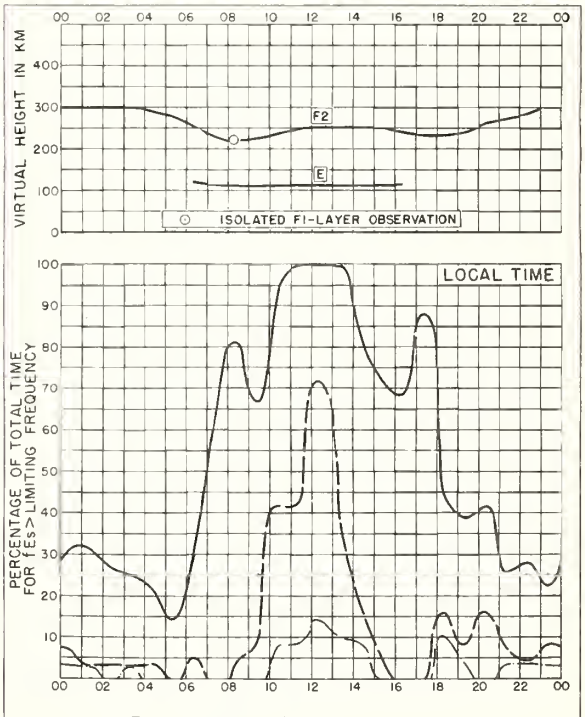

Fig. 52. FUKAURA, JAPAN OCTOBER 1949

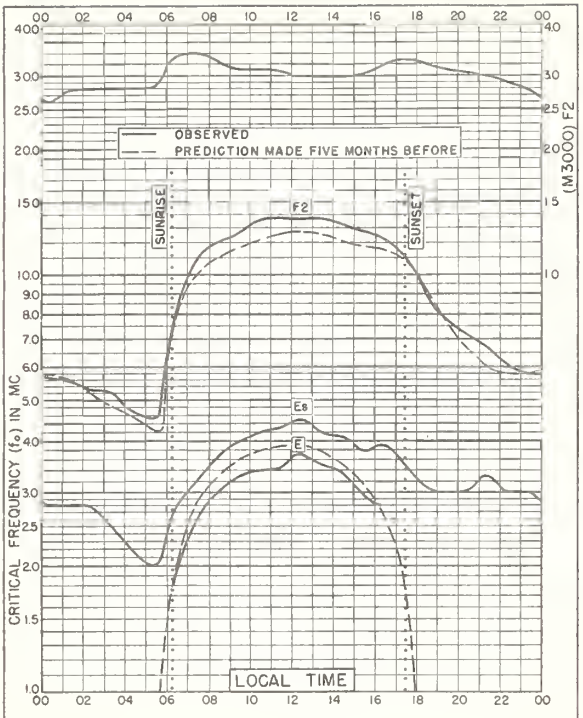

Fig. 53. TOKYO, JAPAN
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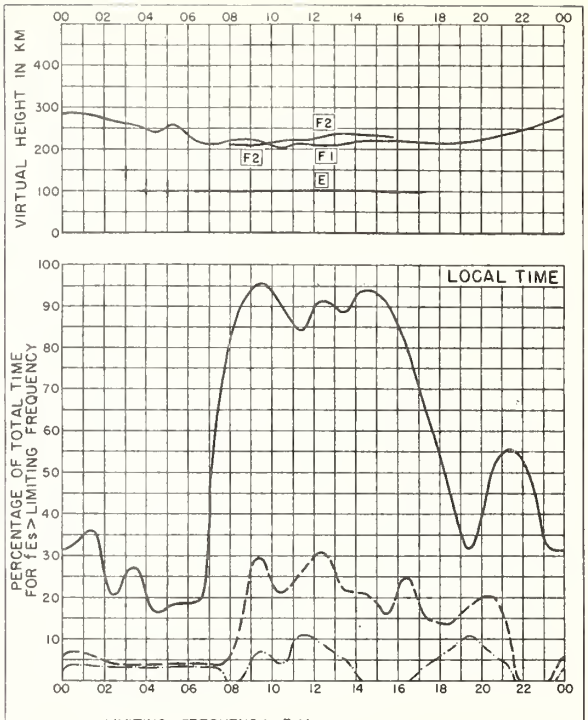

Fig. 54. TOKYO, JAPAN OCTOBER 1949

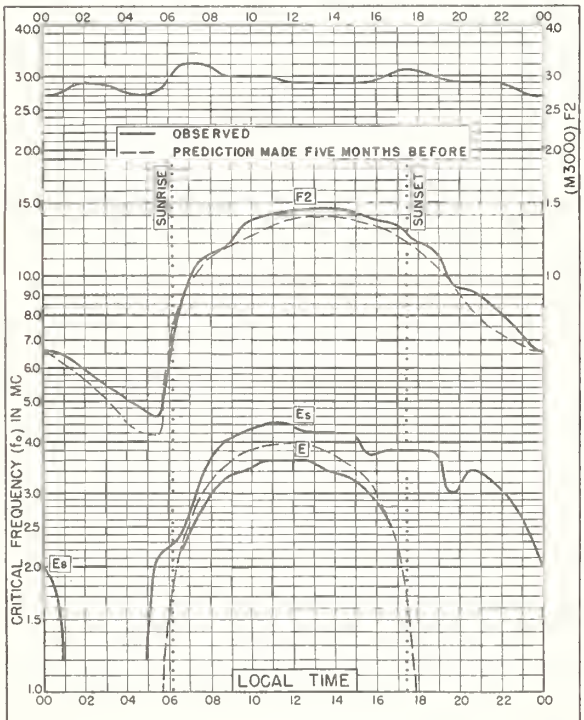

Fig. 55. YAMAGAWA, JAPAN
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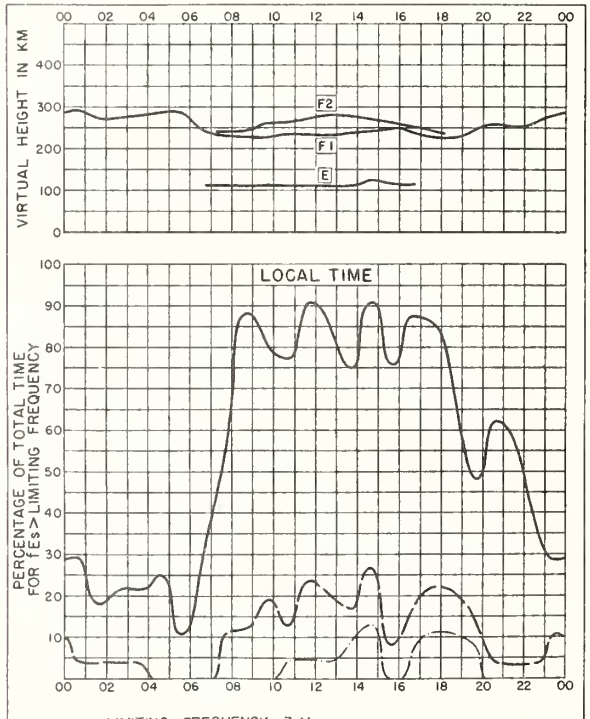

Fig. 56. YAMAGAWA, JAPAN OCTOBER 1949

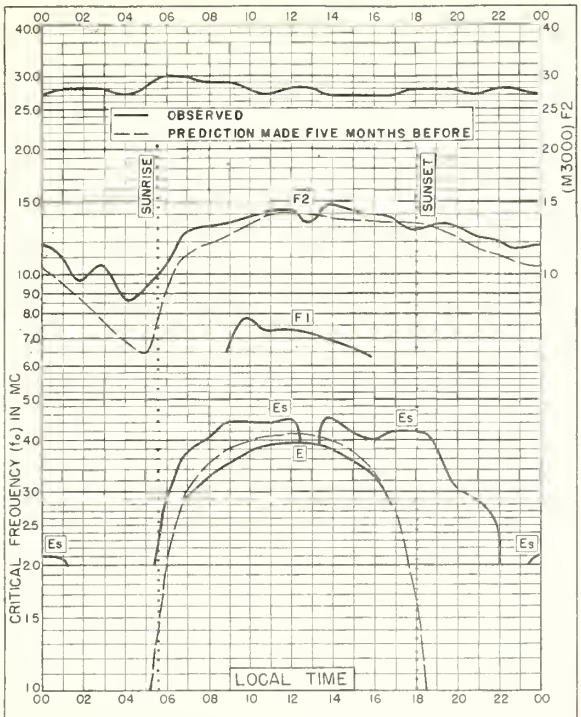

Fig. 57. RAROTONGA I.
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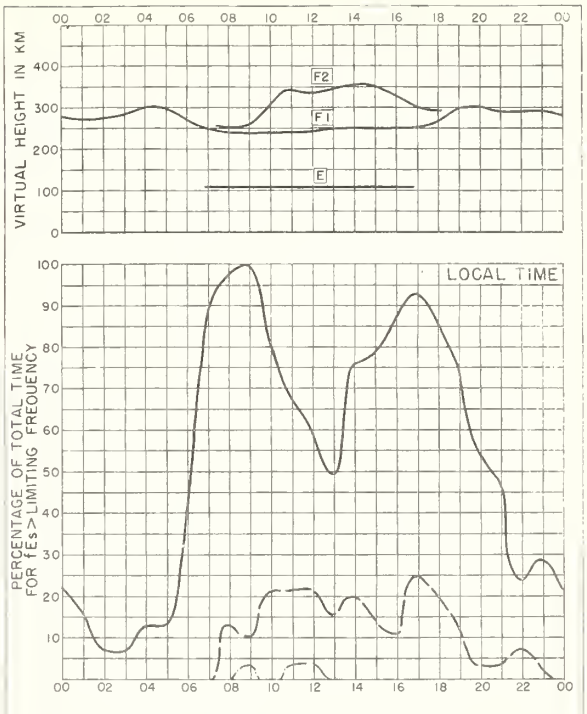

Fig. 58. RAROTONGA I. OCTOBER 1949

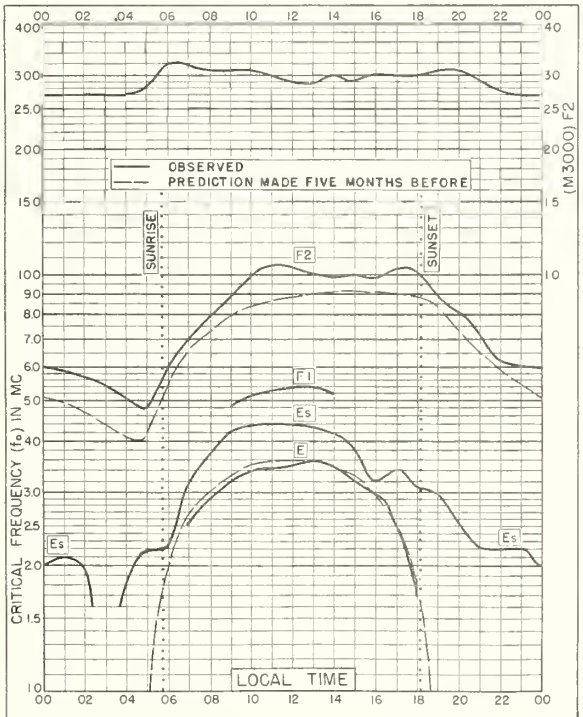

Fig. 59. FRIBOURG, GERMANY
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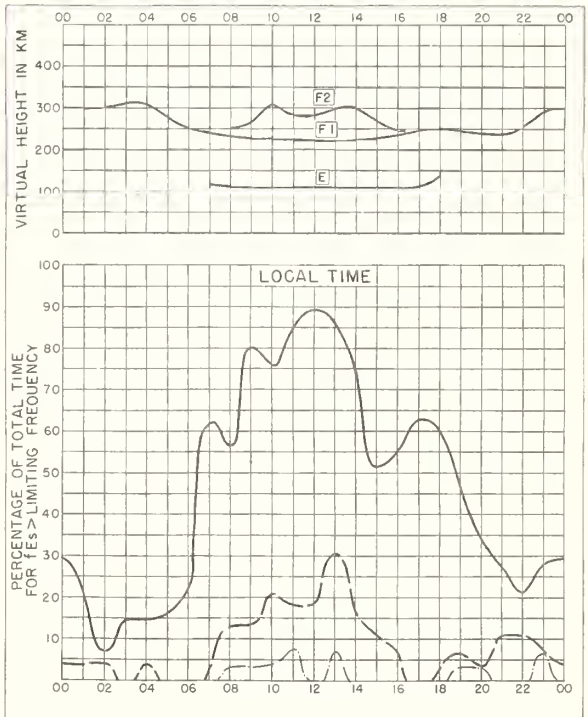

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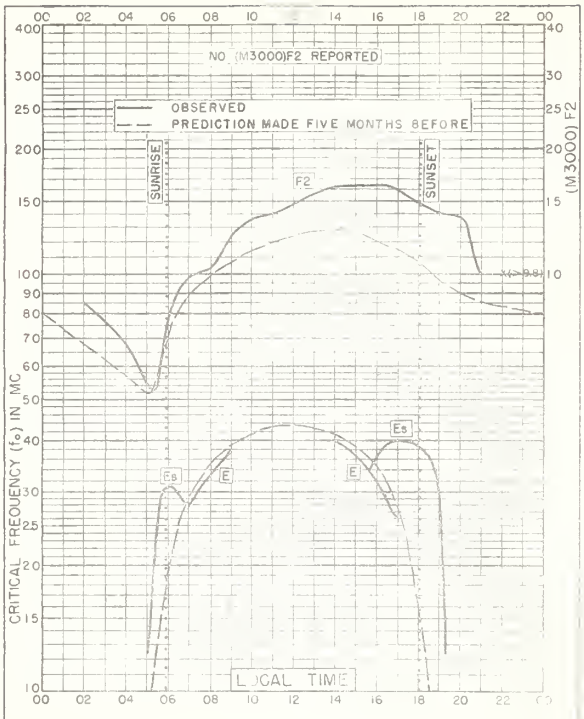

Fig. 61. DAKAR, FRENCH WEST AFRICA
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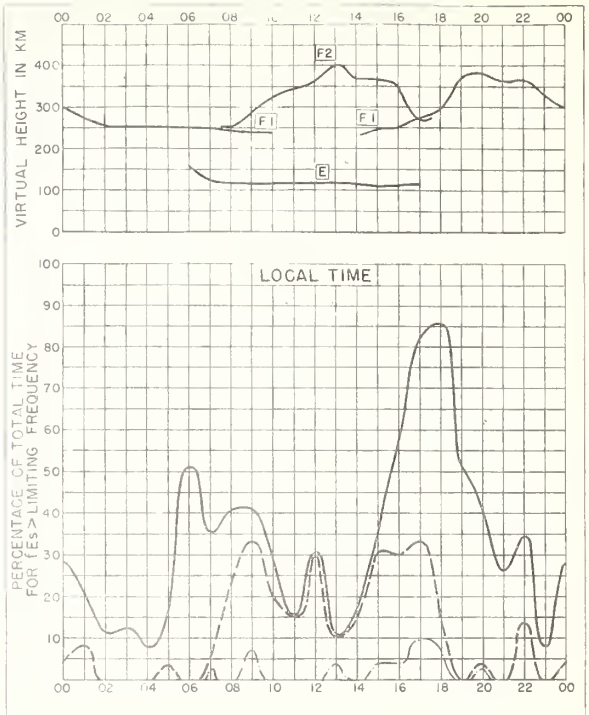

Fig. 62. DAKAR, FRENCH WEST AFRICA SEPTEMBER 1949

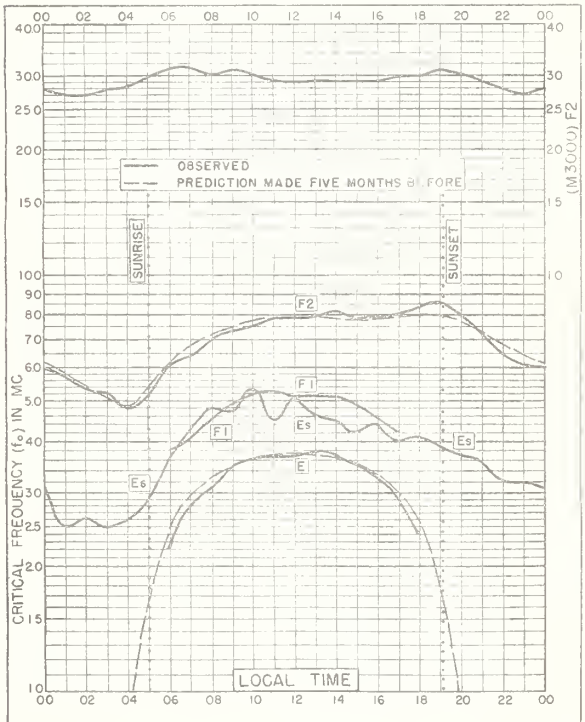

Fig. 63. FRIBOURG, GERMANY
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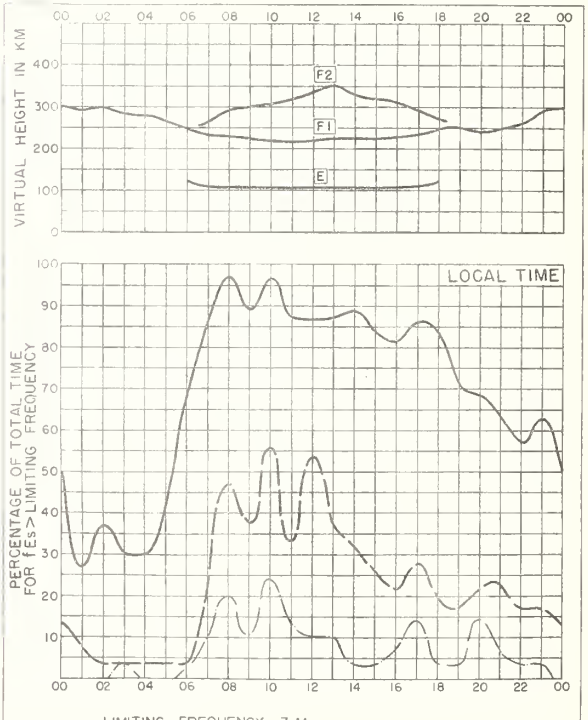

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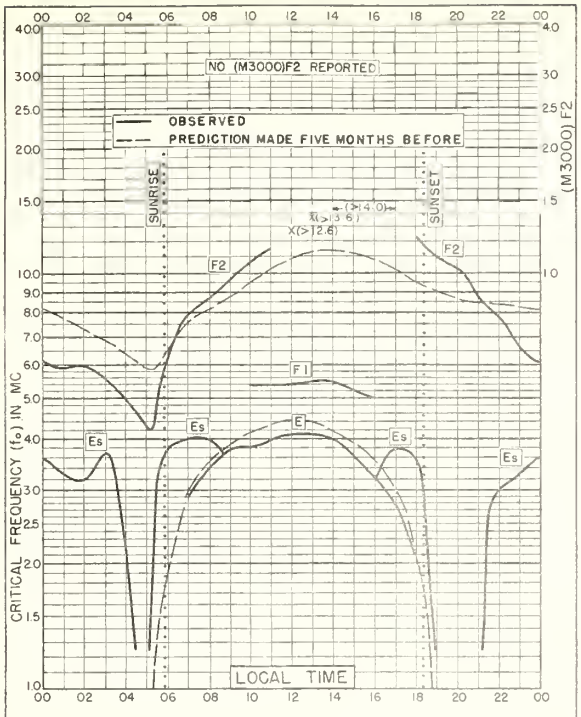

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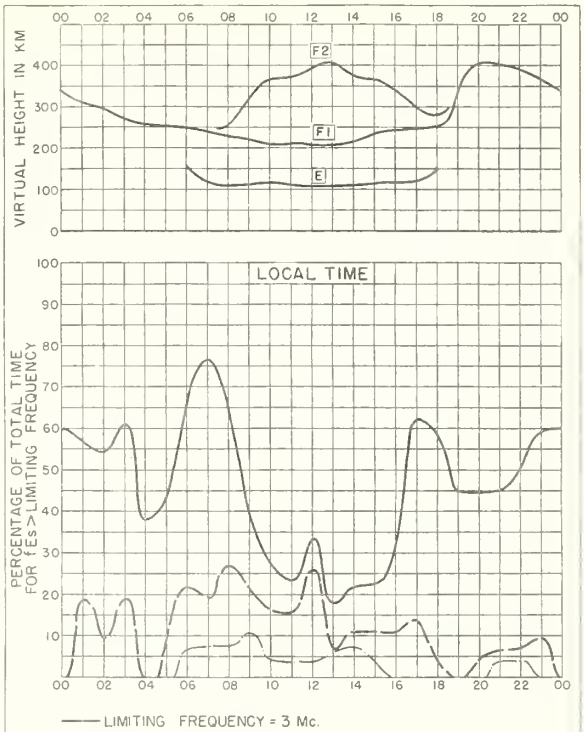

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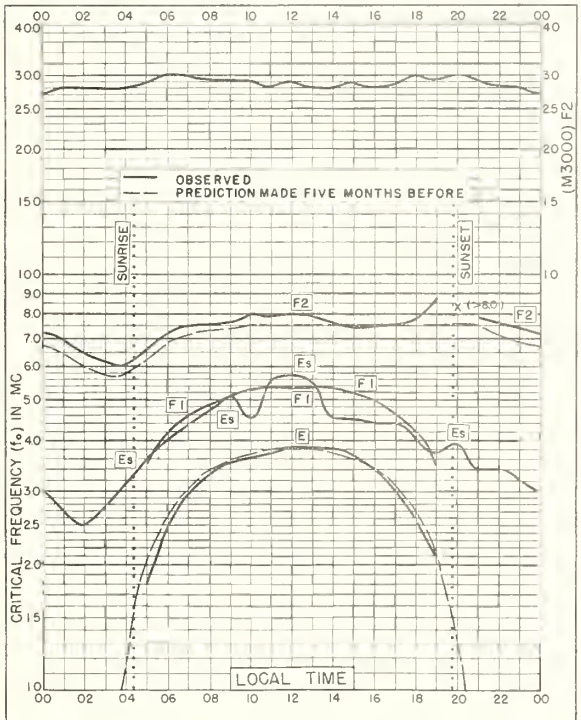

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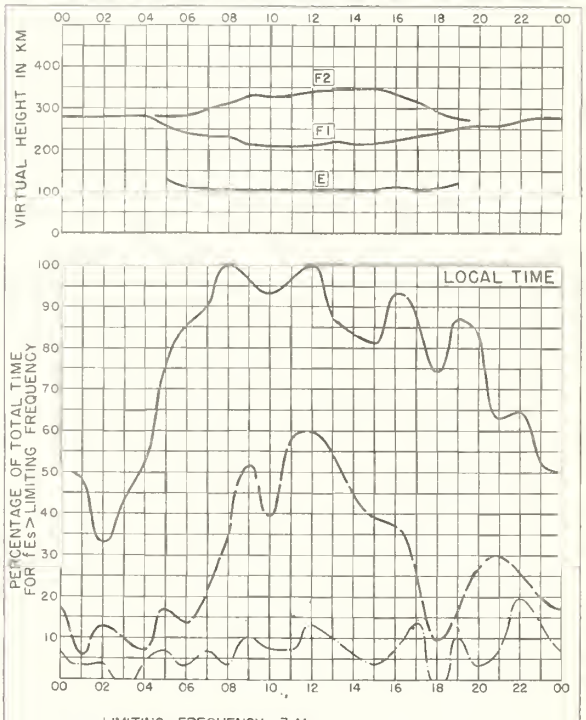

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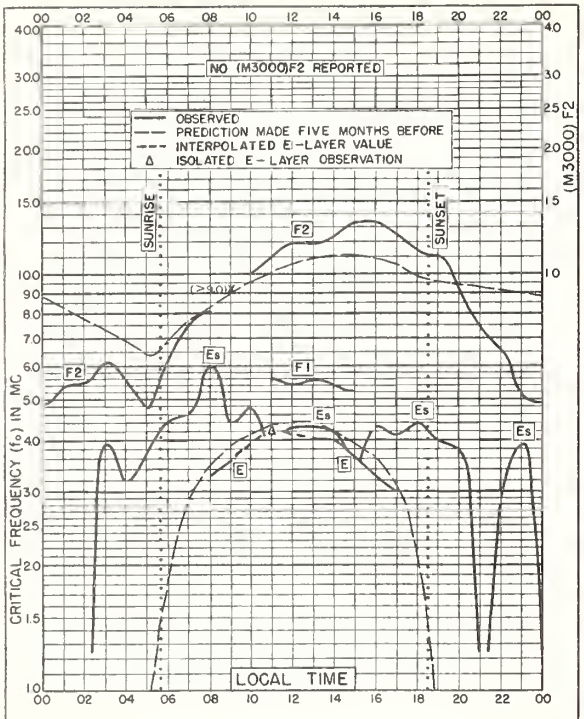

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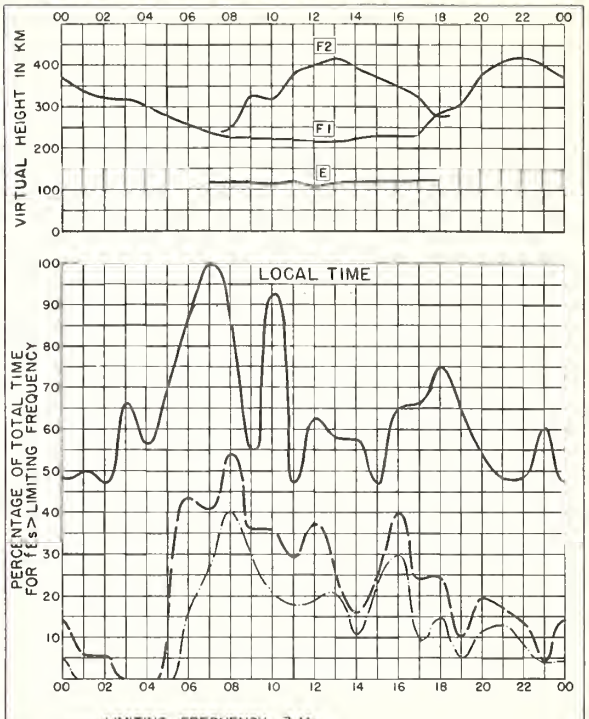

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CRPL and IRPL Reports

[A list of CRPL Section Reports is available from the Central Radio Propagation Laboratory upon request]

Daily:

Radio disturbance warnings, every half hour from broadcast station WWV of the National Bureau of Standards.
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:

CRPL–J. Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL–Ja. Semimonthly Frequency Revision Factors for CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL–D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11–499–, monthly supplements to TM 11–499; Dept. of the Navy, DNC–13–1 ( ), monthly supplements to DNC–13–1.)

CRPL–F. Ionospheric Data.

Quarterly:

*IRPL–A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.

*IRPL–H. Frequency Guide for Operating Personnel.

Circulars of the National Bureau of Standards:

NBS Circular 462. Ionospheric Radio Propagation.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:

IRPL–C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL–G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.

IRPL–R. Nonscheduled reports:

- R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.
- R5. Criteria for Ionospheric Storminess.
- R6. Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
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- R12. Short Time Variations in Ionospheric Characteristics.
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- R15. Predicted Limits for F2-Layer Radio Transmission Throughout the Solar Cycle.
- R17. Japanese Ionospheric Data—1943.
- R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures—October 1943 Through May 1945.
- R21. Notes on the Preparation of Skip-Distance and MUF Charts for Use by Direction-Finder Stations. (For distances out to 4000 km.)
- R23. Solar-Cycle Data for Correlation with Radio Propagation Phenomena.
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IRPL–T. Reports on tropospheric propagation:

- T1. Radar operation and weather. (Superseded by JANP 101.)
- T2. Radar coverage and weather. (Superseded by JANP 102.)

CRPL–T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG–5.)

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